THE

SOUTHERN AGRICULTURIST.

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PART I.

ORIGINAL COMMUNICATIONS.

An Address delivered before the Horticultural Society of Charleston, at the Anniversary Meeting, May 5th, 1836; by JOEL R. POINSETT, Esq.

Mr. President and Gentlemen of the Horticultural Society.

THERE is no better pursuit in life, says Cicero, none more full of enjoyment or more worthy a freeman than Agriculture. The same may be said of the sister art which gave birth to this Society, and to the promotion of which our labours are dedicated. If we regard Horticulture merely as a profitable occupation, there is no pursuit of virtuous industry, which ensures more contentment and happiness: if as a study combined with a knowledge of botany and the practical application of scientific principles, it offers to the lover of nature one of the purest sources of rational enjoyment; and if only followed to divert the mind from severer studies and avocations, to raise fruits of the finest flavour and to cultivate flowers, which delight the eye with their varied and beautiful colours, and regale the senses with their perfume, furnishes both a healthful and pleasing relaxation.

In the early ages, and among savage nations, it appears probable, that the cultivation of fruits preceded that of grain; and that a rude kind of Horticulture existed before Agriculture. The savage natives of tropical countries, almost entirely ignorant of Agriculture, derived

their chief means of subsistence from the spontaneous production of the soil; and there is no doubt, that they tended carefully the trees and plants on whose produce they lived; but it is only among nations, who have extended their conquests into distant countries and various climates: or whose commerce has visited and returned freighted with the richest vegetable productions from the remotest parts of the world, that Horticulture has reached any degree of perfection. The bread fruit tree, the plantain, banana and cocoa nut, furnished food to the simple inhabitants of the Islands in the Pacific Ocean, when first visited by the early navigators. Groves of plantains and of palms surrounded every dwelling, forming the support, and constituting the wealth of the inhabitants; but they cultivated only the trees which are indigenous to those islands, while their more civilized visiters exposed themselves to the dangers and fatigues of a long and hazardous voyage, in order to enrich their own country with the vegetable productions of those more favoured regions. To increase the number and vary the supply of wholesome, nutritious and pleasant articles of food, by introducing into our own country the fruits and grains of other climates, is one of the most important objects, and leads to the most beneficial results of our art. But this desirable end can only be accomplished by means of an extensive commerce; and in tracing the history of gardening, we believe it will appear, that Horticulture has attained a high degree of perfection only among great commercial nations; or among a people, who like the Romans, extended their conquests into every variety of climate. Lord Bacon, in an essay on this subject, in which he describes gardening as the purest of human pleasures, as well as the greatest refreshment to the spirits of man, considers the perfection of this art as the indication of a nation, having attained the highest degree of civilization and refinement. He says, "when ages grow to civility and elegancy, men come to build stately, sooner than to garden finely, as if gardening were the greater perfection."

This subject derives additional importance from its divine origin. In the 2d chapter of the book of Genesis, it is written, "The Lord God planted a garden eastward in Eden; and there he put the man he had formed: and out of the ground made the Lord God to grow every tree, that is pleasant to the sight and good for food:" "and the Lord

God took the man and put him into the garden, to dress it and to keep it."

But we do not require this record of the sacred volume to attest the hand of the Almighty in the creation and preservation of every species of plant, and tree, and shrub. In none other of his wonderful works are to be seen stronger evidences of beneficent design than in the propagation, growth, life and death of plants. The birds of the air, and the beasts of the field, while they feed on their seeds, are the unconscious means of disseminating them. All moving and living things contribute to destroy them; yet are they reproduced in such incredible numbers, and are provided with so many defences, that where man does not interfere, the earth is covered with their growth. In seed time, the smaller plants send forth their future produce in seeds so minute, that the impalpable powder is wafted by the slightest breath of air, to be scattered over the surface of the soil, or insinuated into the crevices of rocks, or among the bark and branches of trees, where it germinates. Many of the larger kind are furnished with wings, and are borne by the winds to be deposited in some unfrequented and fertile spot; others, again, hermetically sealed, so as to be protected from moisture, are floated along by rivers and the currents of the ocean to a distant shore and congenial soil. By these means, and by the prodigious quantity of seed produced by each plant, although countless millions are destroyed annually, a sufficient number are still preserved to perpetuate the species. And when seeds do germinate and strike root and grow, what can be more admirable than the adaptation of every part of the plant to fulfil the intention of the Creator—a living thing without the power of motion to seek its food, is provided with organs to extract its sustenance from the elements around it—stretching forth its roots into a fertile soil, where they absorb its nourishing juices to be conveyed to the remotest seat of life: spreading out its leaves to imbibe the moisture of the atmosphere and to inhale the air, which by an admirable chemical process is decomposed, and that portion injurious to vegetable life rejected: expanding its flowers, so that they may fructify by the position of their parts, or by the aid of insects; and after reproducing themselves a thousand fold, dying and resolving themselves into fertilizing substances to nourish and sustain their successors. A

French author in describing the career of plants, says of its termination, "The earth they adorned in the period of vegetation, is fertilized by their remains; germs impregnated with new life have already been confided to its bosom, ready to supply the by-gone generations, and through the death of individuals an unfading youth is secured to the race."

Scripture abounds in passages both of fact and illustration, which prove that the art of gardening was understood in the earliest ages: and we learn from the complaints of the Israelites in the wilderness, that the Fig, the Grape, and the Pomegranate, were cultivated in Egypt at the period of their captivity.

Solomon made him "gardens and orchards"—and the hanging gardens of Babylon, ascribed by some to Semiramis, and by others, to Nebuchadnozor, and improved and beautified by Cyrus, are celebrated by all the ancient historians. Xenophon informs us, that wherever King Cyrus resided, he took care his paradises (another word for gardens) should be filled with every thing useful and beautiful the soil could produce: and from his testimony and that of other Greek authorities, it appears, that the art of gardening in Persia, kept pace with the progress of civilization in that country. Plutarch, Diodorus Siculus and Strabo, speak of the Persian gardens in terms of high praise; and there is reason to believe, that the Greeks derived their knowledge and their taste in gardening from the Persians. The chief characteristics of both were the same—shade, coolness, freshness, fragrance and repose; both cultivated flowers extensively, and both made the same use of them, to adorn their temples, and decorate the altars of their gods, and to encircle the brows of their heroes and conquerors.

The first account we find of Grecian gardening, is the description of the gardens of Alcinous in Homer's Odyssey. We by no means agree with Lord Walpole, in the contemptuous opinion he expresses of this earthly Elysium. It is true, it is represented as not very extensive: the poet says—

> "Four acres was the allotted ground,
> "Fenced with a green enclosure all around."

But he describes it as filled with a variety of rich fruits. "The reddening Apple, the luscious Fig, the glowing

Pomegranate, the juicy Pear, the verdant Olive, and the bending Vine," all flourished there in luxuriant beauty, and in a climate, where the

> " Same mild season gives the bloom to blow,
> " The buds to harden and the fruit to grow."

While

> " Beds of all various herbs forever green,
> " In beauteous order terminate the scene."

This garden was adorned by fountains, whose waters visited every tree and plant.

It is recorded of the philosopher Epicurus, that his gardens were the finest in Greece, and, that he first introduced the practice of having gardens within city walls, by surrounding his house in Athens with extensive grounds, where he received his disciples and taught his philosophy, the first "*Rus in Urbe*," on record. A custom which has since become so general, that there is no town in Europe, that we know of, without them. In London and Paris they abound, and the beautiful gardens which adorn the interior of every square in the former city, contribute largely to the comfort, the health, and the enjoyment of the inhabitants. It is to be regretted that we have not imitated them in the construction of our Southern cities, where the summer's heat renders a free circulation of air so necessary to health; and shade and verdure so refreshing to the feelings. The Romans probably borrowed their first ideas of gardening from the Greeks; and their conquests soon enabled them to introduce into Italy the fruits and vegetables of the East. Lucullus, to whom Rome was greatly indebted for her Agricultural riches, brought to his native country with the fruits and vegetables of Persia and Medea, a taste for the Eastern luxury of extensive and highly cultivated gardens, which continued to exist for a long period in the Roman States. Numerous beautiful passages in the Latin poets, prove the high estimation in which gardening was held at that time among the Romans, and some of their best prose writers employed their pens to give lessons in the art, and to recommend the pleasures and advantages to be derived from it.

Tacitus in the fifteenth book of his Annals, describes a palace built by Nero, and in his singularly condensed style, gives in three lines an account of the extensive

grounds around it, which were laid out on the principles of modern gardening. He says, "the usual and common luxuries of gold and jewels which adorned this palace, were not so much to be admired as the fields and lakes, and after the manner of uncultivated nature, here woods, and there open spaces and distant prospects." The masters and designers being Severus and Celer, (the Kent and capability Brown of the Romans,) men, who had the genius and the courage to attempt to supply by art what nature had denied." But this style of gardening, if ever it was general, did not last long; for Pliny's description of his garden at Saurentinum, and of the grounds that surrounded his Tuscan villa, show them to have been of a totally opposite character. They were altogether artificial; and it seems singular that one so accomplished, who appears by his writings, to have possessed so much taste in literature and the arts; and to have had a fine perception of the beauties of nature, should have been pleased with such childish conceits.

He describes the descent from his terrace to be a slope "adorned with the representation of divers animals in box, answering alternately to each other." And in another passage, he speaks of his garden as being ornamented with box cut into a thousand different forms, sometimes into letters expressing the name of the master; sometimes that of the artificier. But he invites his correspondent to look from these artificial beauties to the prospect of the ocean, and the meadows and the fields beyond the garden grounds, which are, he says, as much embellished by nature as these are by art.

Marius, the friend of Julius Cæsar, and the favourite of Augustus, has the honour of having first taught his countrymen this monstrous method of distorting nature. This style of gardening was revived in Italy with the revival of the art in the fourteenth century. From thence it passed into France and Holland, and existed in England in all its deformity in the reign of Queen Elizabeth. Hentzer, in his account of English gardening, describes the magnificient examples of the *Ars-topiaria*, which adorned the gardens of England in Elizabeth's time. The topiary art being that of torturing the Box and Yew, and other stubborn evergreens into the shape of beasts, or any other whimsical artificial form.

The disposition to pervert nature, by cutting trees into strange shapes, prevailed in England until the end of the seventeenth century.

But if the bad taste of the Romans in the art of embellishing grounds, spread itself over Europe with their conquests, to them that continent was indebted for the introduction of great varieties of the finest fruits and vegetables.

They brought the Fig from Syria, the Citron from Media, the Peach from Persia, the Pomegranate from Africa, Apricots from Epirus, Apples, Pears and Plums from Armenia, and Cherries from Pontus. Indeed, the fruits cultivated by the Romans, according to the accounts of Pliny, include almost all those now in culture in Europe; and they appear to have been cultivated and improved by the same methods now in use.

The ancients were inferior to the moderns in their knowledge of the several species and varieties of plants: nor had they any scientific arrangement of them, that we are acquainted with. Pliny in his natural history published a very meagre catalogue of plants, not exceeding three or four hundred, and including, probably, all that were known in his time. We are not aware either of their having had any botanic garden, unless the instance mentioned by Pliny of a Roman physician having in his garden a large collection of medicinal plants, may be regarded as evidence of such institutions. The first establishment of this description known in Europe, was that of Lorenzo de Medici, in Florence, of which a full account, with a descriptive catalogue of the plants it contained, is given in a Latin poem addressed to Bernard Bembo, by Alepandro Braccio. According to the opinion of Dr. Smith, the first public botanic garden in Europe, was that founded at Padua in 1533; that of Bologna was soon after established by the liberality of Pope Pius the Fifth; then followed that of Florence, founded by the Grand Duke; since which period, they have steadily increased, and there is now one to be found in almost every city of Italy. The botanic garden of Leyden, was established in 1577—forty-four years after that of Padua, which it soon surpassed in number and variety of plants. In 1663, the catalogue of the garden of Leyden contained 1104 species; and in Boerhaave's time, who, when Professor of Botany there, neglected nothing to augment its riches and repu-

tation, it contained upwards of 6000 plants, species and varieties. Nearly all the beautiful plants from the Cape-of-Good-Hope, which now adorn our gardens, were first cultivated in Europe in this establishment. Leyden, for a period of fifty years, was the only city in Holland possessing a botanic garden; but the extensive commerce of that country enabled her botanists, about the middle of the seventeenth century to establish similar institutions in all the provinces. The first botanic garden in France was established at Montpelier in 1597; but the garden of plants at Paris, was not founded until 1626, by Louis XIIIth. This excellent institution has been greatly enlarged by successive monarchs, and is now entitled to be regarded as the most scientific garden, and the best botanical school in Europe. The botanic garden at Madrid, established in 1753, possesses one of the finest collections of plants in Europe, and is particularly rich in the species and varieties, originally brought from North and South-America.* In our own country, we know of no extensive establishment of this description. That commenced by Dr. David Hosack, in New-York, has, we understand, been suffered to go to decay by the government of the State, who purchased it from the learned and enterprizing proprietor. There is a botanical garden attached to the University of Cambridge, and under the superintendence of that eminent botanist Professor Nuttall; but much remains to be done to render it worthy of the institution to which it is attached, and of the distinguished naturalist who has charge of it.

A taste for flowers is said to have been introduced into England by the Flemish emigrants, who fled thither to escape the cruelties of the Duke of Alva, in 1567. The first botanic garden in England was founded at Oxford in 1632, nearly a century after that of Padua. The royal gardens at Kew were begun about the middle of the eighteenth century, by Frederick, Prince of Wales, father of George IIId.; and now contain a rich and extensive collection of exotics, equalled, however, if not surpassed

* While noticing the botanical establishments of Europe, we cannot omit that of Upsal, rendered celebrated by Linnæus. It was founded in 1657, and destroyed in the great fire, which consumed one half of Upsal. It was restored in 1740, and Linnæus took charge of it two years after, when he raised that institution to a state of great usefulness and still greater celebrity.

by that in the botanic garden in Liverpool, an institution which owes its origin to the influence of Mr. Roscoe, who established it in 1800, and which has been since liberally sustained by the commerce of that city.

The History of Gardening in England, where the art has now reached the highest state of perfection, is of the greatest interest to us, for it is from that country we have derived our knowledge of the subject. The Memoirs of Evelyn who flourished in the reign of Charles IId., contain descriptions of all the celebrated gardens in England at that day, and shew great improvements in the art. The Fashionable Gardener's Guide, used in Queen Elizabeth's time, which bore on its title page, "*Knots and mazes cunningly handled for the beautifying of gardens*," was laid aside, and the formal style of France introduced. Straight and shady alleys of well trimmed trees, regular slopes and levels, and stately terraces, artificial as they are, were better than the quaint devices affected in former reigns.

The accession of King William produced as great a revolution in gardening as in government. With that monarch came the style of Holland; and the English gardens of that period are described as being adorned "with Yew trees in the shape of giants, Noah's Ark cut in Holly, St. George and the Dragon in Box, Cypress lovers, Laurentine bears, and all the race of root bound monsters which flourished, and looked tremendous round the edges of every grass plat."

This style of gardening continued to prevail in England until the beginning of the eighteenth century, when Pope and Addison, by their writings and example, expelled these verdant monsters, and laid the foundation of modern landscape gardening. The honour of originating this style has been contended for by the French and other people of the continent of Europe. It has been traced by some persons to the Chinese method of laying out grounds, which is, however, very different from that admirable arrangement, by which all the capabilities of natural scenery are brought to lend their aid to embellish the landscape; others have supposed, that Milton's description of the garden of Eden, which is familiar to all my hearers, first inculcated the principles of true taste, and taught the gardener to avail himself of the natural

beauties of the situation to produce picturesque effect. The lovers of Italian literature have contended that the true principles of landscape gardening were given to the world by Tasso, in his beautiful description of the garden of Armida. I have said that the lovers of Italian literature awarded this praise to the poet; for this passage is so feebly rendered into English, that only those who have read the original can appreciate his claims to this distinction. The English writers of the eighteenth century appear, however, after an impartial examination of the circumstance, to have first successfully taught the art of gardening as it now exists in Great-Britain.

The poet Mason, says, that Bacon was the prophet, Milton the herald, and Addison, Pope and Kent, the champions of true taste. But the English writers, who treated this subject, among whom ought to be enumerated Shenstone, Wheatly, and the poet Mason himself, did more for the advancement of the art, than herald the approach of good taste, or contend for its true principles. The gardens of Addison, Pope and Shenstone, were laid out upon the plan they recommended in their writings, and although on a limited scale, they were regarded as models of the art, and were generally imitated. To Kent, however, belongs the honour, by the exercise of his exquisite taste and admirable skill in the embellishment of grounds, of having completely overthrown the fabrics of verdant sculpture, reared with so much labour and expense during the preceding century. He introduced amidst a judicious mixture of wood, water and green lawn the waving line of beauty, and that successful application of art, which while it embellishes the natural scenery is not only unobtrusive, but scarcely discoverable. *Arte che tutto fa é nulla si scopre.*

Kent's imitators, as is too commonly the case, carried his principles to extremes; so outrageous were they, says Lord Walpole, in his interesting Essay on Modern Gardening, "that upon Kent's favourite idea, that nature abhorred a straight line, they proceeded as if nature could love nothing, but what was crooked." The consequence was, that good taste was again lost sight of; and the straight avenues, long green alleys and cunning devices of stars and crow's feet were uniformly succeed by serpentine walks, and belts and single trees. Whatever were the size, form, or circumstances of the ground, the

plan was in every case the same, varying only in magnitude. Nothing can be imagined more monotonous than the park and garden scenery at that period in England. Again, the pen was successfully wielded to expose these glaring defects and to vindicate nature. Price, in his able Essays on the Picturesque, endeavoured to restore the true principles of landscape gardening, which the feeble imitators of Kent had so perverted. In this effort he was ably seconded by Knight, who so far excelled him, as that he sought to combine usefulness with picturesque effects. Repton, who at that period possessed great reputation as a landscape gardener, after attempting in vain to combat the principles of Price and Knight, ended by adopting them; and being a good draftsman, as well as an excellent practical gardener, contributed largely to extend them by his designs and works. These productions, discussions and examples, gave rise to the present chaste style of gardening in England, and converted the whole island into a series of pleasing and picturesque landscapes. Nothing can be more delightful than the patches of verdure and plats of flowers disposed round the homestead of the English cottage; and there are few scenes in nature more varied, beatiful and picturesque, than the ornamental grounds and country seats of the nobility and gentry of that country.

(To be Concluded in our next.)

Calomel for Sore Eyes.

"Augusta, May 13, 1836.

Mr. Editor,—Sir: I beg leave to offer for the *Southern Agriculturist*, the subjoined receipt as a result of a successful experiment made by myself a few days ago.

On a recent visit to my plantation, the woman in charge of the poultry-yard, directed my attention to a *goose*, the eyes of which were both entirely closed, and apparently from local inflammation. On inquiry, I was told, this bird had been thus affected for several days, and that its eyes had been bathed with salt and water, but without any favourable change. Having witnessed the most happy results from the use of calomel placed on the lids of the eyes of children, when in a state of inflammation; it occurred to me, that similar good effects from its use might reasonably be expected, if applied to any other

animal under similar affections. With this impression, I took from the medicine chest a few grains of calomel, and covered both eyes of my goose, a portion of which was received on the balls as well as the lids of the eyes. On my next visit to the plantation, two or three days thereafter, I found my feathered patient running about quite restored.

In return for the foregoing prescription, I would feel obliged to you, Mr. Editor, or either of the many able contributors to your valuable periodical, for the suggestion of a preventive of a disease which proves fatal to our *Nectarines*, the fruit becoming *gummy*, and then falling from the tree when about half grown.

CALOMEL.

We have conversed with Mr. John Michel, a very experienced fruitist of our city, who has politely favoured us with the result of his experience, on the diseases which destroy nectarines, peaches, and other fruits of the kind. He states, that from various experiments made, he has fully satisfied himself, that the *gumminess* found upon the nectarines, &c. and the decay consequent thereupon, are occasioned from a small fly, which lays its eggs in the bud or fruit, and not from an insect which ascends from the roots, as has been most commonly supposed. Mr. Michel further states, that as soon as the eggs are deposited in the bud or fruit, the fruit from that period begins to decay, until it finally drops from the tree; that the worm, then, leaves the fruit thus decayed, and remains in the ground until the next season brings it forth, when it takes its wings, and again commences its depredations upon the young fruit. It is, however, to be observed, that when the fly perforates the fruit, after the stone is formed over the kernel, the fruit does not drop as before. The worm in this stage, continues feeding around the stone, until the fruit entirely decays.

Mr. Michel has tried several experiments for preventing the attack of these flies; but as yet, has discovered nothing, that will effectually drive them away, except smoking the tree repeatedly throught the fruit-bearing season.

At an early period this season, we read in a Northern paper, that mercury poured into the body of the tree would prevent the attack of insects. We have tried the experi-

ment in the following manner, upon a peach tree in our garden. We bored a hole into the body of the tree, about two feet from the roots, with an inch augur; the hole thus made, we filled with mercury, and then stopped up the same with a cork. Our young fruit has not as yet suffered from insects; but whether it be from the application of mercury or not, we cannot pretend to say. A few yards from the tree, thus experimented upon, is another tree of the same kind; to this we have applied no mercury; and though the fruit falls in greater abundance than its neighbour, we can perceive no worms or insects about them. We wish that some of our readers would make the above experiment, and let us have the result at the end of the season.—*Editor.*

On the Pride of India Tree, as an Article for Fencing.

Dear Sir,—At your request, I furnish you with my observations on the Pride of India Trees, as an article of fencing, in places, where timber is scarce and of indifferent quality. I have, myself, been at some pains in cultivating this high valuable tree; and bringing it to that state of perfection, which I have heard, it attains, in its native clime. The result of my experience is, that it may be made one of the most useful and profitable fencing and timber trees known to the southern plantation. Our country is becoming, every year, more thickly settled, and as cultivation is pushed on, the vast primeval forests which cover the land, must necessarily disappear before the woodman's axe. The consequence is, that in a few years we will begin to feel the want of the necessary wood and timber for our farming purposes, and see the utility of setting out plantations of the more valuable forest trees. Indeed, I am aware of the existence of this want of timber on some of our sea-islands, and fertile rice lands, and it is particularly to the planters of those sections that I address these remarks.

The best method of cultivating the Pride of India, that I have yet discovered, is the following. Run a plough in a straight furrow, and return, ploughing up another furrow to the one made, then take a hoe, and at the distance of eight feet, open a hole about one foot wide along the ridge, which fill with well rotted manure from the stable, or heap of compost, into which drop four or five berries.

This should be done in March or April. Cover them lightly and attend the young plants as you would cotton, keeping down grass and weeds, and pulling up the weak and slender shoots, leaving but one of the most healthy and vigorous. Go over this twice in the course of three months, with a plough, turning over the furrow to the plants. The young trees will rapidly grow to the height of six or eight feet. During this time, you must occasionally stip off the leaves and lateral shoots, in order to train the stems to a certain length. Keep them merely straight twigs to which they will naturally tend, until the next spring, when you will direct them to grow as upright as possible, keeping down weeds and grass as in the year before. In this year they will attain the thickness of about twelve inches in circumference; and by the next spring the height of twelve or fifteen feet. The growth may, however, be improved by the use of the hoe and manuring. They may now be permitted to put out lateral limbs, suffering the most vigorous to continue, and taking off the weak ones while young, with a pruning knife. This will preserve the quality and beauty of the timber, making it fit in fifteen years for all manner of furniture.

The value of the wood cannot be too highly appreciated. It may be sawed into boards from twelve to eighteen inches wide, fit for almost any purpose, or into wainscoting of the most beautiful shades. It is a light sonorous wood, not apt to split, and capable of a very high polish. It is entirely divested of any resinous matter, and thereby fitted to receive the most beautiful varnishes. It possesses powerful vermifugous qualities, and thereby fitted for all furniture of the bed chamber, as no bugs or any other insect will infest it. The texture or quality of the wood may be improved by being grown on land of a clay bottom, but will grow well on the loosest sandy loam. It should be raised from the seed in the manner I have described. If transplanted, its tap-roots will never grow, and the quality of the wood is much impaired. Besides, it will be more apt to be blown down, being supported only by lateral roots, these taking their sole pabulum from the rich loam on the surface, and giving to the wood a soft spongy texture.

As an article for fence posts, I can safely recommend it as one of the cheapest and most durable. In this latter

quality, it approximates more nearly to cedar than any wood I know. It may be planted where the fence is intended to be run, and your rails may be nailed to the body of the tree. The superfluous branches will afford an excellent fire-wood.

The foliage of this tree, affords a wholesome provender for cattle. Horses, cows, hogs, sheep, &c. will eat the leaves greedily. When dried and mixed with hay, I know of no better medicine for cattle of every kind. Such are the vermifugous qualities of the entire tree, that I never fail to give it to my animals every spring. A few leaves given to horses once or twice a week, will afford them a most beautiful coat of hair. A decoction of its root administered in small doses to children every morning for nine days, will effectually destroy worms in them.

A correspondent of yours has already testified as to the excellence of Pride of India leaves and berries as a manure; and also as a preventive to bugs. To his testimony, I can safely add my own. I have tried both experiments, and have experienced the most beneficial results.

With every wish for your success, Mr. Editor, I subscribe myself COLBERT.

Slavery in the United States; by J. K. PAULDING.

OUR Southern people owe Mr. Paulding much thanks for this able vindication of themselves and their institutions. He has apparently put himself to considerable pains in making himself well acquainted with the various features of slavery in the United States. He has been amongst us—has observed for himself; and in a candid, and at the same time, in a fearless manner, he has spoken just what he has felt and thought upon the subject. The abolitionist and fanatics, to whom the work is principally addressed, cannot fail of feeling its force: whether they will benefit by it, is a hope in which we are not very sanguine. Step by step, the subject of slavery has been growing into importance; until (to use Mr. Paulding's language) it now "menaces the disruption of our social system; and tends directly to a separation of the Union." That the question would come to this issue, we predicted four years ago, in a pamphlet which we put out at

the North.* Our fears, were, however, considered by most of our Southern editors as groundless; and we were blamed by some, for forcing upon the Northern people a discussion, which otherwise, they would never have dreamed of. That our prediction has been verified will appear, from the following introductory remarks of Mr. Paulding.

"The institution has been assailed on one hand with violence and obloquy; on the other defended with invincible determination. The obligations of truth have been sacrificed to unmitigated reproach, and the laws and constitution of the country attempted to be trampled under foot, in the hot pursuit of the rights of humanity. The feelings and good name of millions of our fellow-citizens have been grossly assailed, their rights invaded, their firesides and social institutions disturbed, and their lives endangered without any regard to the dictates of our moral code, and religion itself made a pretext for the violation of its own benign precepts. In asserting the natural rights of one class of men, the constitutional rights of another have been denounced as violations of the law of God; and, as if it were impossible to be sincere without becoming mad, a ferocious, unrelenting, unbrotherly warfare has been, still is, waging against a large portion of the good citizens of the United States, which, if continued, must inevitably separate this prosperous and happy Union in discordant and conflicting elements, that, instead of co-operating in the one great end of human happiness, will be productive only of contention and ruin.

"In this state of things it is thought that a calm, dispassionate consideration of the subject, on the broad general ground of its influence on the happiness of all parties concerned, might not be without its uses at the present moment. The question is pregnant with consequences of deeper interest than any that can occupy the attention of a citizen of the United States, for it involves the peace and integrity of the Union, the condition of millions living, millions yet unborn. It is a question concerning rights and duties of the greatest magnitude, the decision of which must vitally affect the present age, as well as long ages to come. In short, it is a case in which nations are called to the bar, and the two great races of mankind are parties to the issue."

* * * * *

"Hitherto, almost all that has appeared on the subject has been on one side. The horrors of slavery have been depicted in such glowing colours as to blind us to the consequences that may, and assuredly will result from attempting to get rid of it in the summary manner *demanded* by the advocates of immediate abolition, who, one might almost be tempted to believe, consider it the only evil existing in the world. Regard to the honour of our country; justice to a great body of as upright, honourable, and humane citizens as any nation can boast; respect to the laws of the land, and reverence for the constitution. seem to demand that the reverse of the picture should be seen; that the mischiefs to be remedied, the cost of the remedy, and the good to be gained by its application, should be calmly considered, in order that all may, if they please, see for themselves and decide for

* An Appeal to the People of the Northern and Eastern States, on the subject Negro Slavery, by a South-Carolinian, New-York.

themselves, whether, in attempting to get rid of one evil, we may not inflict others of far greater magnitude; whether, in short, by applying rash and unskilful remedies, we may not kill the patient.

"It will be perceived, in the course of the following discussion, that the writer does not consider slavery, as it exists in the United States, an evil of such surpassing enormity as to demand the sacrifice of the harmony and consequent union of the States, followed by civil contention and servile war, to its removal. If the question were now for the first time to be decided, whether it should be permitted to ingraft itself on the institutions of the country, he would assuredly oppose it with a zeal at least equal to that with which he is about to combat the unlawful interference of the abolitionists. But inasmuch as it is now deeply rooted in our land, and inseparably intertwined with the interests, the habits, the domestic policy, and social relations of a large portion of the people of this Union; inasmuch as it is identified with the constitutional rights, and the value of the property of millions of free citizens who will not be persuaded, and cannot be controlled; and, above all, inasmuch as the treatment it may receive must and will deeply affect their peace, safety, and happiness, he is for leaving it to the humanity and discretion of those whom alone it concerns. If it be an evil, let those who cherish bear it. It is their business, not ours, since no duty renders it obligatory on us to go crusading about the world redressing wrongs, real or imaginary, which we had no hand in inflicting. If it reflects dishonour, none of it can fall to our share, since the institution of slavery is guarded by constitutional barriers which cannot be overleaped or broken down, and we have done our part by abolishing it wherever it was within our jurisdiction. If it be a crime to have inherited the property of slaves; if it be a crime to decline divesting themselves of it in a manner which all rational reflecting men believe will be equally pernicious to the master and the slave, if it be a crime to resent, resist, or counteract by every means in their power, any interference with a subject involving all that is dear to men, then let them meet the consequences; but let not us, their kindred, neighbours, and countrymen, become instruments to scatter the firebrands of fanaticism among them, and lend a helping hand to insurrection and massacre.

"Let us not forget that in our furious zeal to give freedom to the blacks, we are laying the axe to the root of the fairest plant of freedom that adorns the New or the Old World; that in our ardour to bring about a questionable good, we are proving vast and alarming evils; and that there is no precept of religion or morality more inflexible in its application than that which forbids doing evil than good may ensue. Where the evil is immediate and morally certain, on every ground of reason and experience, and the good remote, contingent, and hypothetical, it is the part of a wise and good man to shrink from thus arrogating to himself the attributes of Omniscience, and pretending to look into futurity. When mankind are gifted with a prophetic inspiration directly derived from Heaven; or when they acquire the prerogative of planning and controlling the economy of the universe, then, and not till then, should they dare to do evil in the presumptuous anticipation that the miseries they may inflict on the living, will be repaid by the happiness of those yet unborn."

Impressed with these views, Mr. Paulding goes into a full discussion of all the questions connected with the subject of slavery.

In chapter first and second, he refutes the opposition of slavery, as being contrary to the law of God, and the rights of nature; shows, the true meaning of the language in our Declaration of Independence; which proclaims that "all men are created equal," proves that in no state of society, and in no country, have the blacks been considered on an equality with the whites; and concludes with the following just language, upon the morality of freeing our slaves.

"A good motive merely does not, in itself, constitute a good action. It must be salutary in its consequences; it must add to the happiness of somebody. If it injures our neighbour, the community in which we live, the nation of which we constitute a portion, or the great interests of mankind in whose nature we partake, it can by no means be construed into a good action, whatever may be the motive. None but the Being who sees into all hearts, can detect the hidden springs of human action; his creatures can only judge of motives by the acts themselves.

"To apply these principles. Would be adopting and bringing into active operation the doctrine, that slavery by inheritance is contrary to the law and rights of nature, contribute to the general happiness of the only two parties concerned in this inquiry, the master and the slave of the United States, meaning those at this moment in existence, and not their posterity ten or a hundred grenerations hence? The advocates of immediate abolition must accept this limitation on their own principle, since if they denounce the lawfulness of sacrificing posterity for the misfortune of the parent, they must also admit the unlawfulness of sacrificing the parent for the benefit of his posterity.

"Let it be supposed, for a moment, that the owners of slaves throughout the whole of the United States should promptly, and with one accord, yield obedience to this new law of nature, and at once free all their slaves, without exception; the old who are past all labour, and the young not yet arrived at an age to maintain themselves. A consideration of the probable, nay, inevitable, consequences of such a procedure will enable us to test it by the great principle adopted by moral writers, to wit, that an action is good or bad in proportion as it increases or dimishes the happiness of those within the sphere of its actual influence. At first view, this definition may seem to sanction the doctrine, that it is lawful, to do evil in order to produce good; to rob a man who makes an ill use of his money, that we may apply it to a better; to murder a miser because he has a virtuous heir who will convert his property to purposes of benevolence; or to sacrifice our country for the general benefit of the world. These are not, however, legitimate deductions. Such acts cannot, and will not come to good. A just Providence hath decreed that human happiness can never spring from the polluted source of human crimes.

Chapters third and fourth discuss the practicability of emancipation; and present in its true light, the revolting consequences which would ensue from amalgamation.

Chapter fifth clearly proves, by the strictest historical deduction, that the whites and blacks can never live together in a state of equality. Upon this subject, are the following just remarks.

"Separated as are the two races by impassable barriers; carrying in their very faces the badge of that separation, and animated as they must necessarily be by conflicting interests, there can be no doubt that the first struggle would be for ascendency in political power, and that it would be one of far greater excitement than the ordinary contests of parties in the United States. The master with all his ancient *prejudices*, if you please, all his accustomed ideas and habits of superiority, would be obliged to enter into a struggle for power with his quondam slave; the latter, flushed with all the insolence of newly acquired freedom, and glowing not only with the recollections of the past, but the hopes of the future. Would such a contest be a peaceable one? Would it approximate to our ordinary elections, in which the struggle is between two parties recognizing in each other equals and associates, while here it will be whether the master shall be governed by his former slave? Impossible. Elections would become battles; and blood, not ballots, would decide the mastery. The body politic would be rent asunder by eternal and inveterate struggles; civil strife would ensue, and a deadly war of extermination be the end of this woful experiment of philanthropy, where the numbers of the two races were any way equal. Where the blacks outnumbered the whites, the latter would pass under the yoke of the negro, and become the victims of a legislation of ignorant slaves, unacquainted with every principle of civil liberty or the rights of property, and prepared by the doctrines of the abolitionists to believe that it would be in accordance with the law of God and the rights of nature to claim an equal share of the wealth of the United States. The white race would either become victims or exiles, for it is impossible to conceive they could live under a government so constituted."

Chapter sixth, discusses the right of property in slaves. This chapter will be found entire among our selections of this number. Chapter seventh repels the charges which have been made upon the people of the United States, for having introduced slavery among them; and for continuing its existence.

The two succeeding chapters, eighth and ninth, are taken up in giving an account of the laws for the government of slaves. The domestic and social relations existing between them, and their masters; of the relative condition of African freemen; African slaves in their native land; American slaves; English labourers; European peasantry; and the various classes of white men in

the United States. In these two chapters, the fullest and most honourable vindication is made of the Southern slave-holder. He is presented as he actually lives amongst us—humane, generous, and considerate in the treatment of his subordinates.

Chapter tenth, concludes the work, with a manly and justly merited attack upon the fanaticism of the abolitionist—its hostility to religion, morals, liberty, patriotism, and the social virtues. Fanaticism is becoming so much the order of the day, that our readers will excuse the following beautiful, though lengthy remarks.

"Fanaticism, when assuming the garb of universal philanthropy, is equally opposed to all patriotism, and all the social relations of life. It has no fireside, no home, no centre. The equal lover of "the entire human race," such as Mr. Garrison and his associates, is in effect a traitor to his country, a bad citizen, a coldhearted friend, a worthless husband, and an unnatural father, if he acts up to his principles. He is false to his native land, to the nearest and dearest ties and duties, moral, social, and political, for he stands ready to sacrafice them all for the benefit of strangers, aliens, and enemies. He will not fight for his country, for all countries are alike to him; he will not devote his time, his talents, his labours, and affections to the happiness of his wife, his children, and his household friends, for he equally loves the whole family of mankind, and leaves them to the fostering care of the "entire human race," while he wanders away to the uttermost parts of the earth to overturn the social relations of nations, and establish a universal brotherhood. He scorns the sordid interchange of reciprocal duties, and disinterestedly devotes himself to those who are equally beyond the reach of benefiting by or returning his good offices.

"His heart is never at home. The centripetal force never operates on him. He is for ever receding from the centre to the circumference, and his sphere of action is the whole universe. Nothing less than the great human family can awaken his sympathies. Wives, children, relations, friends, and country, are not half so near and dear to him as the negroes of Africa, or the Indians of Polynesia; and as to all the little insignificant ties and associations that form the cement of families, neighbourhoods, and communites, the solace of human life, they are as burnt flax, scorching, smoking, and finally consuming in the fiery furnace of red-hot fanaticism. Nothing will content him but the sacrifice of his country to a world, or a dogma.

"Hence, beyond all question, arises that gradual decay of real piety and practical religion which, notwithstanding all the cant and pretence of the age, cannot but be palatable to every calm observer. We seem to be exporting so much of our zeal and religion to distant countries, that there is scarcely enough left for our own consumption; and like the old woman whom Rhadamanthus beckoned to the left hand, claim the rewards of Heaven, not on the score of our own reformation, but the pains we take to reform others. Such is fanaticism, which, setting itself above the restraints of law, and the supervision of earthly tribunals, arrogates the sanction of Heaven for all its excesses, and is consequently as deaf to argument as it is blind to the dictates of common

sense. It neither reasons nor listens to reason. We therefore do not address ourselves to the fanatics, but to the rational, reflecting citizens of the United States, a vast majority of whom are always on the side of their country and their constitution. We shall as little heed their reproaches as we respect their principles, or the conrse by which they are illustrated. Their sincerity, even if conceded, is no apology for madness. The madman who shot at the president was unquestionably sincere, yet is uow expiating his error by a seclusion from that society of which he was the enemy. It is only persons afflicted with a harmless distortion of the mind that we allow to go at large, and cannot include the abolitionists among this fortunate class."

In conclusion, let us not only request our readers to peruse Mr. Paulding's work attentively, but let us at the same time earnestly beg them, to cause their children to study it thoroughly. The time is at hand when, we must, all of us, be prepared to defend our slave institutions, and to repel in every manner the attacks which are made upon them. As an able auxiliary in this respect, we can recommend the present work of Mr. Paulding.

Answer to some of the Questions of "Edisto Island."

Mr. Editor,—I highly approve of the mode of eliciting information on agricultural affairs, by publishing questions, as "Edisto Island" has done in your last number. It is by such means that information is elicited; and persons well acquainted with the various topics upon which information is asked, are thus, induced to give out to the public, what they, otherwise, would never have thought valuable. The truth is, what we individually know, and have long been in the babit of practising, we are very apt to suppose familiar to every one else, and thus it is, that much valuable information is withheld from the agricultural community, which would be highly improving. With this belief I shall proceed to answer a few of the questions proposed by "Edisto Island." My answers may not be entirely satisfactory; but then, they may lead others to give such as are more so.

First, "Edisto Island" asks:

Which is known from experience to be better; to plant short to the hand and manure well, or to plant largely and manure, if at all, but little?

To this question, I think, every planter who has made the experiment, can give but one answer; and that, in the affirmative. I am willing to prove, on a penalty of

any amount, in case of failure, that I will take a field of three acres, the soil to be of uniform quality. One acre I will manure well; the other two I shall not manure at all. I shall plant cotton in both—give to each the same attention, and will at the end of the season, under every circumstance, make more from the one acre manured, than from the two without any manure at all. This I have tried with many of my agricultural friends, and can speak positively, when I say, that to plant *short* and to manure well, is attended with the following unerring results.

1st. The lands can be better prepared from having *less* to prepare.

2d. They can be prepared and planted earlier.

3d. Can be manured and drained better.

4th. Can be more easily kept *free* of grass, by being more frequently stirred; and,

5th. Under adverse circumstance, all exigencies, such as storms, rains, sick negroes, &c. might be more promptly met.

In giving you the above observations, Mr. Editor, let me be distinctly understood. I do not say that a planter upon a rich soil, and where every thing is suited to his purpose, should plant short; but I do affirm, that upon such lands as are usually to be met with in our State, it is far better to plant as I have described.

Secondly, "Edisto Island" asks:

Which is the most money making Cotton, the superfine, the fine, or the common?

I presume "Edisto Island," has allusion to the long staple cotton. As I have never planted the short cotton, I shall answer his question in reference to those cottons.

I think the *fine* cottons most money making for the following reasons:

1st. It is more productive than the superfine; and a more hardy cotton.

2d. Its price is more uniform, from the fact that it goes into the manufacture of a greater variety of goods; and

3d. It brings a price so much higher than the common, as to yield a greater profit to the planter, even after allowing the difference between the two in productiveness.

At another time I shall enter more at large into this subject, and shall show from my factor's books for the

last five years, that my opinion is based upon indisputable facts.

In answer to query the third, viz.

Has the plough ever been used in the culture of Sea-Island Cotton?

I answer, that the plough has been used with great success.

In preparing the land, the dagon plough may be used for breaking up; and will thus enable your hands to bed with greater ease to themselves. In the hoeing season, the skimmer plough has been used with the greatest success. By this plough, twice as much work may be done, and with much more neatness than with the hoe. In speaking of the skimmer plough, I allude to the one lately improved upon by John Townsend, Esq. of Wadmalaw Island. Several of the most experienced planters of that Island, and of James-Island, are now using it with great effect.* Any planter introducing it upon his plantation, need never complain of grass. This improved plough may be had at Mr. Martin's blacksmith shop in Wentworth-street, between Meeting and King. I am convinced that these ploughs in a year or two will be in as common use with the Sea-Island planters, as the skimmer is with the people of Virginia. The difference between Mr. Townsend's skimmer, and the one formerly in use, is this. He has improved upon the old plough, by adding a long blade, which cuts the grass from our high beds. For the present, Mr. Editor, I must remain,

Your very obedient servant,

COLLETON.

Camellia Japonica.

Mr. Editor,—Your valuable periodical, (although entitled the *Southern Agriculturist)* does not, I am confident, exclude articles on *Horticulture* from its pages. Under this impression, I am induced to solicit through it, some information respecting the best method of treating the *Camellia Japonica in our climate.* It is one of the most magnificent genus in our list of green-house plants, and, as

* Dr. Legare of James-Island, well known as a skilful agriculturist, informs us, that he has used the skimmer-plough with the greatest success. We are in hopes, to be able, in the next number, to lay before our readers, a full account of this plough from his pen.—*Editor.*

such, I cannot but feel extremely anxious to find out what soils, &c. are most congenial to its growth. In our climate it is very subject to a kind of mildew, which after a time, causes the leaves to assume a brownish colour, having every appearance of being scorched with the sun. The leaves on being touched are soft, and appear deprived of all nutritive substances, they finally become covered with dark spots, while in very many instances they are attacked by a small insect which destroys the plant. This beautiful plant, as is supposed by many, is difficult of cultivation, but such is not the case; for I have been assured by two eminent exotic nurserymen of Philadelphia, that there is no exotic green-house plant more easy of cultivation than the *Camellia Japonica*. I sincerely hope that some of our horticulturists will extend to us some information on the subject, and to whom, and yourself, we shall feel much indebted.

Very respectfully, yours, &c. P.

I imported some years since a great variety of the Camellia tribe, and lost *every one* in the manner I have described, with the exception of that in my case; the plant became so rapidly filled with mildew, that it lost that nourishment which the insect finds before the plant dies. This, however, may have been attributed to a want of water on the plant. P.

PART II.

SELECTIONS.

Some remarks on Temperature considered in relation to Vegetation and the Naturalization of Plants.

[FROM THE NEW-ENGLAND FARMER.]

THE natural distribution of the vegetable kingdom over the face of the globe, as effected by various causes, and chiefly by the temperature of the different countries and continents, is one of the most interesting of all subjects. As the illustrious Von Humboldt has observed, it is, "intimately connected with the physical world in general. Upon the predominance of certain families of plants in particular districts, depend the character of the country and the whole face of nature; and the natural congregation of vast masses of vegetation of the same character in particular countries has produced most important effects upon the social state of the people, the nature of their manners, and the degree of developement of the arts of industry."

The difference of vegetation, as exhibited in the torrid, the temperate and the frigid zones, is sufficiently familiar to every one. The equinoctial regions, abounding with their splendid vegetation of lofty palms, bread-fruit trees, plantains and bananas, laden with huge masses of nourishing food, differ as widely from those portions of the earth lying in the temperate zones, where the vine flourishes in perfection, and the cereal grains furnish the chief means of subsistance to man, as the latter does from the arctic regions, where the grasses and cryptogamic plants still keep up the diminishing scale of vegetable life, and contribute to the support of a higher class of organized beings. It is probable that almost every country produces naturally in its vegetation, sufficient means for the subsistence of man; either directly, as in the torrid and temperate regions through the medium of delicious fruits, esculent roots and seeds, or indirectly, as is partially the case in the temperate and frigid divisions through animal life, which primarily subsisted upon vegetation in some of its forms. But man in a civilized state, especially in those countries where climate forbids nature to lavish her bounties in the greatest profusion, has refused to be satisfied with her supplies, and has delighted his taste and gratified his wishes by assembling around him, as far as possible, the productions of other countries, either to embellish his habitations, or satisfy his appetites. Hence, many plants, which were exotics, have become so acclimatized or naturalized, as to afford the principal food of their inhabitants, and the staple productions of their soils. The vine

and the fig, which are the boast of France, are not indigenous there. The orange, that produces its beautiful golden fruit in the south of Europe and our own country, is a native of Asia. Some of the commoner grains have followed civilized man in his migrations for such a length of time that it has now become difficult to say which was their native country. This is the case with wheat, millet and buckwheat, and many other grasses which it is supposed are indigenous in the oriental countries. How much we are indebted to other climates and other countries for our most valuable necessaries and luxuries in the vegetable kingdom, a single thought will convince us. Wheat, rye, and most of the other grains, cotton and rice, the staples of our soil have all been imported here; and our most delicious fruits owe their origin to other lands. The peach is from Persia, the apricot from Armenia, the cherry from Pontus, and nearly all our finest cultivated varieties of apples, pears, plums, &c., from Europe.

These preliminary remarks lead us to reflect how much the arts of culture are indebted to the property which many plants have, to a certain degree, of becoming naturalized in a country where the variations of temperature differ from those of their own; and it may lead us also to investigate the most successful methods by which such exotics, natives of warmer climates, as may be valuable to us either in an useful or ornamental point of view, may be so naturalized as to be either partially or entirely hardy and able to withstand the severity of our Northern winters. That a large proportion of the vegetation of the tropics, can never become acclimatized in regions liable to severe frosts, is evident to every one, but that a number of highly valuable plants, natives of peculiar situations in those countries, and more particularly those of the intermediate parallels of latitude, have been, and may be naturalized here, the history of Agriculture and Horticulture affords ample and abundant proof. Plants of rapid and bulky growth, succulent and tender stems, natives of the warmest districts, can never be for a long time exhibited in a state of vegetation here, except in an artificial temperature: but annual plants and trees and shrubs, with strong woody stems, particularly if natives of elevated tracts, as the sides of mountains and the tops of high table lands, may always be considered as affording probabilities of a capacity for naturalization in a colder region.

A method universally known, and which we are inclined to place foremost among the resources for the naturalization of plants, consists in sowing continually the seeds of the plant under trial, for successive generations and from seeds produced in the country into which the plant is introduced. This, though in many cases a lengthy and somewhat tedious process, is we believe, the same by which the most extensive and valuable naturalizations have been effected heretofore. The more tender fruits, as the peach, cherry, apricot and almond, have doubtless been rendered hardy in this way: each new generation possessing, perhaps, diminished vigour, and acquiring a more robust and hardy constitution. Although it would have been difficult, perhaps impossible, to have altered the contexture of the original tree if otherwise continued, (whether by cuttings, suckers, or layers,) yet by reproduction from seed each generation became a little more capable of withstanding the effects of a low temperature, until the desired result was in a measure, or wholly obtained. It is obvious, however, that the result brought about is not the naturalization of the *original* species of tree or plant, but, as Professor De Candolle justly observes

in his "Physiologie Vegetale," of the *improved variety* produced from seed, and which has acquired in its contexture a diminished susceptibility to cold. The effects produced by this method of naturalization, are even more abundantly exemplified in the case of herbaceous and annual plants, than among ligneous trees and shrubs. As an instance of this, we may refer to the common Indian corn, which was undoubtedly originally a native of South-America and the Southern parts of this continent, but of which so many varieties have been produced by cultivation, that it may be said some particular one can be found naturalized and adapted to any parallel of latitude, from the equator to the 45°, and in Europe to the 55° of latitude. This* is often produced in annual plants, not so much by rendering the plant itself less sensible to cold, for in many cases this is scarcely at all effected, as by producing improved varieties, which shall ripen their seed and come to maturity in a cold climate, in half or even a fourth of the time necessary for that purpose, in the country where the species is originally a native. Thus the rice, so important an article of food to the natives of the East, was probably first cultivated in Ceylon and Java, whence it spread all over India, Japan and the southern provinces of China, and the United States. It has also been introduced into Italy, Spain, and the South of France, and we perceive that lately an improved variety has been found sufficiently hardy, to produce abundant crops in the comparatively cold climates of Hungary and Westphalia. Rice may now therefore be considered naturalized as far north as the 46° in the old world. The luscious fruit of the melon and the cooling one of the cucumber, can scarcely be brought to maturity if the seeds are direct from the more southern climates where they are natives, but improved varieties have sprung up by culture, so perfectly naturalized as to produce abundant crops in almost every part of the United States. The horticulturist should never, therefore, reject even an annual plant, which will not come to maturity immediately without artificial aid in our climate, but if the subject is worthy of the pains, he should endeavour, by the aid of artificial shelter, if necessary, to procure the seed and sow it under the most favourable circumstances during several successive generations, when it will probably at last produce him a variety which will withstand the severity of the climate, or come to maturity sufficiently early to escape the destructive effects of too great an abasement of temperature.† Considered in this light, the green-house may become one of the most useful, as well as ornamental and pleasing sources of enjoyment to the experimental horticulturist and the public generally.

We must not leave this part of the subject, without adverting to the advantages which may be obtained by artificial fecundations and

* Cobbett's corn, which he brought to maturity in the short and cool summer of England, is, we believe, a very early variety from Canada.

† As a proof the effects of a renewed reproduction from seed, we may mention that we planted the present season in a favourable situation a quantity of seed of the Lima bean, direct from its native country, lat. 14 deg. S.—the plants produced, however, scarcely attained the period of flowering before they were destroyed by the frost, whilst the plants in their immediate neighbourhood, the produce of a variety of the same bean, naturalized in the country, yielded as usual abundant crops of matured seed.

impregnations, of highly ornamental or useful exotic plants, with more hardy species or varieties of the same genus; the produce of which may be highly superior varieties, having all the beauty or excellence of the tender species, and perhaps nearly the same robustness of constitution as the hardy one. We conceive it to be a method, by which, now that artificial hybridizing is so well understood, the most valuable results may in many instances be produced in a comparatively short space of time.

The choice of situation and aspect is another important consideration in the naturalization of plants. We never place a plant of a delicate nature in aspects exposed to the utmost inclemencies of the weather—in situations open to the fury of the coldest winds, or the raging of the most boisterous storms. We naturally seek on the contrary to place them in a sheltered situation, in an aspect favourably disposed to catch the genial rays of the sun in summer, and to prolong as much as possible the duration of that favourable season. Hence the use of walls and trellises, and the choice of particular aspects best calculated to favour the object in view. In England, many fruits require a wall, to come to maturity, which ripen perfectly with us as standards, and although walls are as yet but little used here, we can easily imagine that many partially tender trees and shrubs, might be brought to perfection upon them which the inclemency of our winters forbids us to cultivate in the open air.

Apart from shelters of this description, the character of the soil and situation demands the utmost attention. Soils that are of a cold, clayey and heavy texture, particularly if they retain water, are totally unfit for the growth of tender plants. They should be planted in a light, friable and porous soil, as dry as the peculiar constitution of the plant will admit, for not only is a wet soil more liable to be deeply frozen, but also the exposed parts of the plants which grow in it. Even hardy and naturalized trees are often severely affected by the cold in a soil saturated with moisture. The philosophy of this is well known to every physiologist. In moist soils, the plant is surcharged with watery fluid, the annual depositions of wood are large, but not firm and well calculated to resist the intensity of cold; the leaves are longer completing their articulations with the stem, and as a consequence of this, the young shoots are continued longer in a growing state, and remain succulent and unripened at the approach of winter, when the first severe frost destroys their vitality. Besides these facts, it is well known that water, (and the sap of plants in its primary state is but little more,) is a better conductor of heat and cold than either the woody fibre of trees, or the particles of air which occupy in some measure the place of a watery fluid in a well ripened branch. Susceptibility to injury by frost in ligenous plants, is therefore increased with the presence of watery fluid, and diminished by the presence of firm well ripened annual layers of wood. A knowledge of this fact is of the greatest importance to the agriculturist, in the selection of soils and situations for crops which are but imperfectly naturalized. We may illustrate this by remarking, that plantations of the Chinese Mulberry, *Morus Multicaulis*, a tree that is justly exciting the greatest attention in this country, and which deserves every effort at complete naturalization,) which were situated upon dry gravelly soils, even if in cold aspects, withstood almost perfectly the extreme rigours of the last winter in the Eastern States, when extensive fields

of the same tree, in moist soils, were entirely cut down to the ground in a great majority of instances.

In Europe, the advantages of a dry soil for the naturalization of plants are well known, both theoretically and practically, and many plants that formerly required the protection of a green-house, are by the proper choice of dry and porous soils, inured to the severity of ordinary winters. So well is this subject understood in England and France, that Camellias and Oranges have in favourable situations been quite naturalized. In the latter country it is quite remarkable how many comparatively tender exotics, generally protected in green-houses, are preserved perfectly in large barn-like buildings, without the aid of fire, during the whole winter. "The secret of this," Loudon observes, "lies in the dryness of the air of France, and in the gardener having previously *by withholding water, matured the growth of the leaves and ripened the wood;* in short, in his having reduced the plant to a dormant state before housing them." In cases where it is desirable that the utmost pains should be taken, as in the case of new and rare shrubs, creepers, &c., the gardener will facilitate the object in view by trenching the soil and artificially producing a dry subsoil by underlaying the surface mould with a stratum of stones or very coarse gravel: thereby checking too vigorous a growth, causing a small but firm annual deposit of wood, and placing the vegetable in a state of rest long before the winter frosts commence.

A variation of this mode of naturalizing, consists in placing many tender kinds of herbaceous plants, and small shrubs upon dry rock-work or aggregations of stones mingled with soil, where they are found to thrive perfectly. We observed in the Botanic Garden at Cambridge, (Mass.) an *Azalea Indica* and a species of *Erica*, that had braved the exceedingly low temperature of nearly 30 deg. [Fah.] below zero, the past winter, having been planted for several years previous in a mass of rock-work, where they had annually matured their wood in the most perfect manner. Those persons who are acquainted with the comparative delicacy of these plants, in a climate so cold as that of Massachusetts, will appreciate at once how thoroughly they had become naturalized by this simple process.

Naturalization by external protection, next deserves our attention. It is a common practice to protect many shrubs and trees with a covering of straw or mats at the approach of winter, during their young state, knowing that as they become stronger and more bulky in size, they will also acquire additional hardihood. This is an effectual practice in its way, and we believe that considered as an auxiliary in naturalization, some useful hints may be gathered in relation to it from recent discoveries made in the physiology of plants. It was formerly the opinion of some *savans*, among others Hunter, Schœpf and Salome, that vegetables having a circulating system of fluids and a sort of respiration analagous to those of animals, ought to have therefore, and had, a property of developing a certain quantity of caloric or heat within themselves. Recent experiments, however, made by Schutzer and Halder, and more latterly by Dr. Goeppert, of the Botanic Garden, of Breslau, seems to have proved, that "vegetables appear to retain a certain medium of temperature, which cannot however be considered as originating from heat evolved by the functions of the plant, but can be satisfactorily explained by a reference to the *bad conducting power* of the vegetable fibre, and the wood by which the temperature of the surrounding ærial strata, penetrates but slowly

into the interior of the plant." What we would wish to deduce directly from this, is that many woody plants on which it is proposed to try acclimatising experiments by external protection, might in many instances with more chance of success, be reared under shelter until they attained considerable thickness of stem and induration of wood, when they would from their increased non-conducting capacity, be much better able to withstand the cold, if protected a few seasons, than the same species, if reared from infancy in the open air. As an illustration of the advantages which size and diameter of stem give to tender trees in withstanding rigorous cold, we may mention that we saw in the nurseries at Philadelphia the following trees, viz.: *Acacia julibrissin*, *Pinckneya pubens*, *Magnolia grandiflora*, and *G. eliptica*, *Gordonia pubescens*, &c. of some twenty or more years growth, that had survived uninjured during the past winter, (unparalled for depression of temperature for fifty years past,) the extraordinary low temperature of twelve degrees or more below zero of Fahrenheit, or 44 degrees below the freezing point. That this was owing in a great measure to their having become naturalized in that locality, there can be no doubt. But the ordinary lowest temperature of Philadelphia is some 20 or 25 degrees above that of the last winter, and we conceived that these trees survived so perfectly the increase of cold only by virtue of their large size, thickness of bark and wood, and the consequent thickness of non-conducting substance, to protect the juices of the plant and vital organs from the effects of frost.

The simplest and perhaps the most effectual method of preserving plants by external protection, is to be found in the well known practice of enveloping either the whole or a portion of the stem and branches with a covering of dry straw, pieces of Russia matting, or moss and hay, firmly bound with straw ropes. For small plants, boxes or empty casks, with a light in the top, (or which is preferable, in the north side,) are often used. The branches of evergreen trees, as the pine, hemlock and spruce, where they can be procured, are excellent materials for this purpose. It is, we believe, customary in some parts of France where the fig is extensively cultivated, to bend the branches down to the earth every autumn and cover them with a thin layer of soil: in this way the fig, though a tender tree, can be cultivated to a great extent in the northern districts.

We strongly suspect after all that has been said of protection externally against the influence of cold, that the evil effect which plants suffer, arise not so much from the *congelation* of the exposed parts of vegetables, as the *rapid and hasty thawing* to which they are often exposed in this climate by the sudden influence of the sun after continued cold. Who has not witnessed some tender tree on the north side of a wall, some few herbaceous plants in the shade of a hedge or fence, or even the grass in the northern exposure, preserving their greenness and vitality through the chilly season of winter, when their equally tender neighbours exposed to the sun, have suffered severely, and even perished entirely? The cause of all this is, probably, that the sudden glancing of the warm sun upon the frozen branches, leaves or roots of the tender vegetable, *causes a sudden dilation in the chrystals of ice* that are formed in those parts, which, consequently, in their expansion distend and rupture the spiral vessels, and other parts filled with semi-fluid matter, and destroys those organs of the plant necessary to its vitality; in short, something takes place analagous in its effects to the bursting of a blood vessel in the animal system.

This is very striking in the splitting of the stems of large trees that occasionally happens in cold climates, and is often attended with a loud noise.

In all northern countries where the earth receives an annual coating of snow, the husbandman is well aware how beneficial to his fields is this protecting mantle of nature—so much so that in this country it is a common saying among farmers, that a covering of snow is equal in its beneficial effects to a coat of manure. The benefits in many cases are not exaggerated, for the snow not only prevents the loss of internal heat of the earth by radiation and thus protects vegetation upon its surface, but it has also a powerful influence in shielding the exposed parts of plants from the alternations of freezing and thawing, and the injury they would receive from the sudden action of the sun when in a frozen state. The results are not less beneficial upon a smaller scale to the horticulturist, while it affords him also a hint of the efficacy of slight coverings over plants near the surface of the earth, as in this manner many of the herbaceous and stemless plants of the south may be preserved in security during our winters. We should not forget to mention in this brief essay, the idea first put in practice we think by the enlightened M. Soulange Bodin, of the Horticultural Institute near Paris, of attempting naturaliztions by grafting partially tender species of plants, upon hardy species of the same or a kindred genus, able to withstand the effects of cold. The success of his experiments at the time his results were made known was flattering. His method was to graft upon large robust stalks, at some considerable distance from the ground, availing himself thereby of the protecting properties of the stalk, and of the power which he conceived it to possess of maintaining its temperature, by the communication which its deep roots had with the warmer soil. We believe this mode of naturalization might be very effectual south of the Potomac, where the soil is never very deeply frozen, in acclimating trees and shrubs of still warmer climates, and we recommend it to the article of the horticulturist in all cases where practicable in this region.

It is proper to remark here, that persons about to make experiments in naturalizing plants, should when they choose a locality endeavour to avoid all low valleys, especially if abounding with springs or streams of water, as the most unfavourable of all situations for the attainment of the object in view, on account of their being more subject to early and late frosts in autumn and spring, and to intense congelation in the depths of winter. Extensive slopes, however, by the sides of large rivers and other bodies of water, are excellent sites for the purpose. Some of our large inland lakes, those immense bodies of water which are rarely frozen over, have an astonishing influence in ameliorating the severity of the winters in their neighbourhoods, and many tender plants might be naturalized in their vicinity, and thus become adapted through their progeny to much colder situations.

Such are the principal facts already known, which should claim the attention of all persons whom pleasure or interest may induce to attempt the naturalization of plants in this country. Although it is a practice which has hitherto proceeded nearly at random, and has been rather the amusement of the amateur cultivator, than an object of careful attention, we are persuaded that with a portion of the assiduity directed towards it that the other branches of horticultural science have received, it may become the means not only of a great

increase of gratification to the horticulturist, in the acquisition which the garden will receive of beautiful and valuable flowering trees, shrubs and vegetables, but also that it may to a certain degree be productive of very considerable advantages to the agriculture of our country. The United States embrace almost every desirable variety of climate, and we believe that in time the greater majority of useful and beautiful productions of the vegetable kingdom, may be successfully produced in our own territory. We confidently anticipate the period when the vine and the silk culture shall be carried to maturity in the extreme northern portions of our country, as the olive, the cocoa, palm, the plantain and bananna, the cochineal-cactus, and even the tea plant, will in time, undoubtedly, flourish in perfection in the southern portions of it. With so extensive a range of climates, the field for experiments is equally extensive; varieties of the different productions may be originated, suitable for numerous localities and latitudes; and soils and situations may be chosen best adapted to the naturalization and cultivation of the different plants. Nature has already furnished us with the most extensive variety of vegetation, to be found in any temperate region, and it is only necessary for art to second her intentions and our country may boast of all that is most delightful and gratifying to man among the products of the soil.

In the meantime we look to our horticultural and agricultural societies, composed as they are of the learned, scientific and practical portion of the community who are devoted to these subjects, for the increase and dissemination of information relating to them—for the report of such experiments and facts as have already been made and ascertained, and the encouragement of new and more extensive trials and experiments in the different sections, soils and climates of our fertile and highly diversified country.

A. J. DOWNING.

Botanic Garden and Nursery, Newburgh, N. Y. Dec. 10, 1835.

Topping Corn.

[FROM THE NEW-ENGLAND FARMER.]

Mr. Fessenden,—Notwithstanding the correct theories advanced by yourself and others, and the numerous experiments, proving conclusively that the practice of "topping Indian Corn" (maize) is injurious, yet it is believed that this practice is still continued generally, although discontinued by a large portion of the best farmers in New-England. The practice, if injurious, would, in a short period, cause a loss of property, in the aggregate, amounting perhaps to millions. That the corn plant should ever have been selected for mutilation, in preference to other vegetables, seems to be an extraordinary circumstance. In the whole circle of American husbandry, there is no plant of higher utility and value, or which excites greater curiosity and admiration in respect to its beautiful appearance and organic structure. The physiologist cannot explain how the grass grows, or how this plant springs from a decaying seed into being, and performs all its functions: yet science reveals to us certain facts, as well as the modes in which some of its functions are performed. We know that the Author of nature does nothing in vain, either in the animal or vegetable kingdoms; and that He gave to this plant such peculiar consti-

tution and anatomy, that each part or organ is absolutely necessary to bring it to maturity, or complete its perfection.

The abstraction of any part of it is, therefore, opposed to the wise provisions of nature; and, for obvious reasons, checks its growth. It receives a portion of its food and nourishment from the soil, through the medium of the roots, and their sprays, or minute fibres, extending several feet from the stalk or stem, which act as absorbents. But the vegetable fluid, received from the roots and propelled upwards, undergoes several chemical actions before it enters the cob, and before it is finally converted into that peculiar food which the green ear requires. Air is as essential to its growth as heat, and supplies a portion of its nourishment. Indeed, some plants derive their whole nourishment from the air. The wide corn blades, like the leaves of trees, decompose carbonic acid, retaining the carbon, and emitting the oxygen. The blades are, therefore, in some measure, respiratory, and have some slight analogy to the lungs of animals, which retain only that part of the air called oxygen (the vital part,) to improve the state of the blood and give it its red colour. We may, therefore, safely conclude that the corn-blade is the organ to prepare or elaborate the sap propelled into it from the stem; that from the blade it returns to the pith or pulpy substance of the stalk; that it next enters the cob, after having undergone several stages of improvement: and that before it is finally received into the kernel, it has been "refined and doubly refined," until it constitutes that rich saccharine juice, which is the nutriment of, and gives the sweet flavour to the kernel. We thus perceive the use of the blades, as well as the pith, the latter extending through the whole stalk. This vegetable fluid circulates through the whole length of the stalk, as well as the blades. Whether the sap, after it ascends from the roots into the blades in which it is elaborated, descends to the roots, according to the doctrine which some distinguished physiologists hold in respect to trees and perennial plants, we confess we have strong doubts. But that there is some sort of circulation, must be conceded. It is probable that the juice, after it ascends, may descend into certain bulbous roots as their tops dry and decay.

Although unable, by actual experiment, to confute the theory, we can conceive of no reason whatever why the sap should descend into the roots of annual or perennial plants. "The circulation of the sap," says a learned writer, "is one of the most obscure, though important processes, in the whole vegetable economy." But the fact that it circulates, or flows, or moves through every part of the corn-plant, improving its state, until the final deposit of its richest substance in the kernel, is sufficient to support our main position. If our premises are correct, the conclusion irresistibly follows, that cutting off half the stalk with nearly all the blades, while the plant is green and growing, before the ear comes to maturity, must necessarily check its growth, because a large portion of the organs, essential to complete its perfection, are abstracted. It is disorganized in respect to its natural functions. One source, whence it derives nourishment, is cut off. The sap from the roots can no longer be elaborated by the blades, and afterwards converted into a richer and sweeter substance.—The ear consequently shrinks, the kernel shrivels as it dries; and the result is, as has often been demonstrated by accurate experiments, that by means of the mutilating process, the corn turns out to be not

so sweet and palatable for food, less in quantity, and in weight less than there would have been, had nature been permitted, in her own way to bring it to maturity.

Farmers often commence topping the corn so soon as the kernel is glazed over, "begins to turn," while it is "in the milk." This is the period when the ear is in the greatest need of the saccharine juice, when all the parts or organs of the living whole, through which action is evolved, and which reciprocally act and re-act, are developing their energies to produce the desired result, the maturity of the ear. And the several parts or organs of the plant are reciprocally dependent upon each other for the exercise of their respective functions.

Without the top and the farina, which falls from it, the corn would never grow upon the cob. A silky thread grows out of each kernel, and at the precise time when these threads project beyond the husks, when "the corn is in the silk," the farina falls from the top on to the silk, and through the medium of these threads impregnates each kernel. A miscroscope will disclose a small aperture at the end of the silk. In this manner, it is well known, that two fields of corn of different kinds, standing at a considerable distance from each other, will intermix when the wind conveys the farina from one field to the other.

The tops and the wide spreading blades have other uses. They serve as a covering to protect the ear and stem from the too intense heat of a burning sun on the one hand, and cold winds on the other. They also derive nourishment from gentle rains and dews; and their umbrageous foliage, by being a partial obstruction to evaporations, tends to prevent the soil from parching or drying up. A medium temperature is thus, in some measure preserved. The genial influence of the solar light upon the plants (without which they would not grow,) is a fact known to all, but is not of easy explanation. This covering affords also a partial protection against the early frosts, to which our Northern climate is subjected. One instance of this I will mention. The last spring I planted about four acres of corn upon a low, argillaceous soil, *late in the season*. The piece was well manured, but no manure put in the hill. For a long time the plants appeared less promising than those of my neighbours, who put manure in the hill. But when the roots reached the under-sward, and the nutriment equally diffused, the growth of this piece was remarkably rapid. The plants being thick set, and of uncommon height the tops and blades covered nearly the whole surface. The prospect appeared favourable to a yield of 75 bushels to the acre. While other farmers had topped their corn (a practice which I have not adopted,) mine was in vigorous growth, only a small portion being out of danger from frost. In that state, two successive frosts struck it so severely as to kill the tops and blades. But the ears remained green, and to appearance untouched by frost, and the husks did not adhere to the ear as they do when severely frost bitten. My opinion is, that the *frost* did no greater injury than the *knife* would have done, had the piece been topped at that time; and also that had I topped it previous to the frost, the effects of the frost would have rendered it valueless, except for fodder.

Some farmers top their corn in order to force it to ripen earlier. They remove the covering to let the rays of the sun have greater effect upon the ears. And some believe, that by this process they can turn the whole current of the juice into the ear! In respect to

the last point, our preceding remarks afford a sufficient answer. Experimental knowledge will convince any one, that the corn will ripen earlier in nature's way, than by adopting the mutilating process. The truth is, that we may safely follow nature, but to change her course and improve her laws, is beyond the capacity of man. The great Author of nature created every plant in the vegetable kingdom, *perfect in its own kind*. It is, therefore, the height of arrogance and folly to attempt to improve upon what is already perfect. While by the mutilating process, we increase the quantity of solar light shed upon the ear, we at the same time diminish the quantity of heat, the latter being perhaps more necessary to the plant's growth, than mere light. In autumn, at the usual time of topping corn, more light falls upon an isolated tree in the open field, than upon any one tree in a thick grove or forest. Yet it is true, that the latter tree has more heat than the former. So in a compact, well shaded corn field, the heat is retained, if not generated, more than it would be by cutting away the umbrageous foliage to let in solar light, thus exposing the denuded stalk to the full force of the cold, searching winds of that season. In the spring season, when the plants are small and tender, there is an abundance of light, but such is the low temperature, and their exposure to the winds, that as a natural consequence they often appear feeble and sickly, and slowly increase in size.

We know of no tree or other plant, whose condition would be improved by cutting off its top, or main branches. Should a tree be entirely stripped of its foliage in midsummer, it would surely decay and probably die. If it bore fruit not fully ripe, the fruit would shrink and never become palatable. Should the main branches be cut off, its growth would be so stinted, that it would not recover until after several years, if at all. In transplanting trees, young, or of many years' growth,* modern experiments have proved, that mutilating the tops and the roots, at the same time is very destructive to the tree; because the branches through which the sap circulates, are organs just as essential as the roots, to the nourishment of the tree.

Another justification assigned for the practice of topping corn, is to gain a greater supply of fodder for cattle. But the fact is, that the farmer by cutting up his corn at the roots when it has come to maturity, will have a greater quantity of fodder, than he would in the other mode, and he thereby saves much labour. It is admitted, that the stalks cut green, containing more of the saccharine juice, afford sweeter fodder. But if the main object be to raise good corn, that juice should go to nourish the ear.

We could extend our remarks, and adduce other arguments to fortify our main position. But should you deem these cursory remarks worthy of publication, for the purpose of eliciting public inquiry, or engaging the attention of writers more competent than myself to establish the truth of the theory, and to put an end to one of the most unwise and injudicious practices ever adopted in an enlightened community, I shall not regret this humble effort to promote the agricultural interest.

WILLIAM CLAGGETT.

Portsmouth, N. H. Feb. 6, 1836.

* In England, transplanting full grown trees of all kinds is reduced to science, and conducted upon systematic principles. By this process, the parks and pleasure grounds of the wealthy are suddenly ornamented with extensive groves.

Indian Corn made without tillage after planting.

[FROM THE NEW-ENGLAND FARMER.]

By experiment, I have arrived at some conclusions in regard to the culture of Indian corn, which I think are of importance to planters in the Southern States. I communicate them for the use of the public with great hesitation, because they are directly at variance with the received opinions on the subject.

The early part of my life was spent in agricultural pursuits—and hence, if there were no other reason, I feel a deep interest in every thing relating to agriculture. I noticed, very early, the great difficulty in transplanting successfully the young corn plants. Whence comes this, but from breaking the roots in taking the plant up? How is it then, that intelligent planters affirm the doctrine, that one chief object of ploughing corn, is to cut its roots? If breaking the roots of young corn in transplanting it, is really fatal to its future growth, must not breaking its roots with the plough, when it is older, and the season hotter, be a serious injury to it? Any other conclusion seems to me to be at variance with the general economy of nature. It seems to me that there can be, in truth, but two reasons for ploughing or hoeing corn—1st, to destroy grass and weeds; and 2d, to keep the soil loose, that the roots may penetrate easily, in search of their proper food. But in accomplishing these two purposes, great injury must be done to the corn, by breaking its roots. Can we not accomplish both these ends, and at the same time keep clear of the attendant mischief? I think we can.

Last spring I planted a small piece of poor ground—first breaking it up well. The rows were made three feet apart, and the stalks left about a foot apart in the drill. The ground had been very foul last year with crab grass, whose seed matured. The corn was not well up this spring before the grass began to appear. When the corn had about four or five blades, the young grass completely covered the ground, and the corn was turning yellow. I spread a small quantity of stable manure around the corn, and covered the whole ground three or four inches deep with leaves from the forest, taking care to do this when the ground was wet, and the leaves also, that they might not be blown away, and to leave the tops of the young corn uncovered. In *ten days* there was not a particle of living grass to be found, and the corn had put on that deep bluish green which always betokens a healthful condition of the plant.

From the day the corn was planted until after the fodder was pulled, and the tops cut, nothing more was done with it, and the result is a product at the rate of forty-two bushels to the acre—about one-third of the stalks having two ears on each of them.

I noted, in the course of the summer, the following facts:—

1st. The corn treated thus, was always ahead of some planted alongside of it, and treated in the usual way.

2d. It ripened at least ten days sooner than other corn, planted at the same time.

3d. During the hottest and dryest days the blades never twisted up, as did other corn in the neighbourhood.

4. In the dryest weather, on removing the leaves, the ground was found to be moist to the surface, and loose, as deep as it has been at first broken up.

5th. The heaviest rains had scarcely any effect in washing away the soil, or making it hard.

It certainly will require less labour to produce corn in this way, than in the usual mode. And even if it required more, we have the consolation to know, that while, by the old mode, every hour's work is an injury to the land, by this mode, every hour's work is making the land better; for few things can be better manure than the coating of leaves put on in summer, when ploughed in the winter or spring following.

I used leaves raked up in the forest, because of these there is an ample supply within the reach of almost every person—and because there seems, from my observation, to be a strong antipathy between dead and decaying forest leaves, and crab grass, that most harassing foe of agriculturists.

I make this communication, as I have already said, with hesitation, because the idea of raising corn without ploughing and hoeing, and at the same time improving the land, by protecting it against the influence of a scorching sun and washing rains, is so directly in the teeth of the universal practice for ages. The thing is, however, at least, worthy of further trial. It may lead to most important results.

Those who think the plan worth any attention, may easily make an experiment with an acre or two, and note carefully its progress through the summer. If they are satisfied, after the trial, that there is any thing in it, to extend the operation will not be a difficult matter.

If, on experiment, it should be found advisable to extend the operation, the proper way would be, I think, to collect the leaves in winter, and deposite them in heaps on the ground on which they are to be used, and the next spring, during a wet season, after the corn is up, spread them, taking care to leave the tops of the young corn uncovered.

There is one very important result that must follow the success of this plan on a large scale—and it was with an eye chiefly to that result, that my experiment was undertaken. The constant excuse for not improving our land, is, that where cotton is grown, the time necessary, first to cultivate the growing crop properly—next to gather it, and then to prepare for a new crop, leaves the planter no time to collect manure. My plan will put an end to that excuse at once; for wherever leaves are to be had, half the time usually bestowed on working the corn crop in the usual way, spent in gathering leaves and putting them on the ground, instead of ploughing it, may in a short time, accomplish every thing that can be desired in the way of manuring.

Why may not the same process answer in the cultivation of cotton? If it keeps the ground soft and moist, and prevents the growth of grass and weeds in a corn crop, it will surely have the same effect with cotton—and be the means, further, of preserving the cotton, when the bolls open, from all the injury it sustains from the soil in wet seasons. This is, however, but speculation. Let it be tested by actual experiment.

JAMES CAMAK.

Athens, Ga. October, 10, 1835.

Corn, Carrot, and Ruta Baga Crops.

[FROM THE CULTIVATOR.]

Mr. Buel—Dear Sir—Being unwilling to hide my light under a bushel, however humble it may be, when thousands of others are shining so bright around me, illuminating my path and rendering my labours more easy, more productive, and more pleasant, I have taken the liberty of forwarding for your disposal, an account of my past season's agricultural labours, so far as they are connected with the cultivation of the corn, the carrot and the ruta baga crops.

Under the influence of a strong disposition to innovate upon old theories and practices, and to mark out a new and untrodden path, where there appears to be room for improvement; with no reverence for usages whose merits are founded upon mere antiquity, I have commenced the agricultural life, prepared to think and to act for myself. With such a disposition, and knowing, as every man of reflection must know, that there is a great degree of ignorance on agricultural science in our country, you may well imagine that I see many things among our hard working and deserving farmers, that most emphatically require a thorough and radical change—that there is a vast amount of labour, of hard back-aching labour, which from improper application, produces not its suitable reward—and that there are many acres of fine productive soil, which by improper management are not made to yield a return of simple interest upon their cost.

I will acquaint you with my experiment upon the cultivation of a field of corn, of three and one-third acres. The land was of the kind here denominated the oak timbered land; a strong, loam soil with a clay bottom. It had been three years down after wheat, without seeding, and had been previously worked pretty close. In May I carted on about thirty loads of rotted manure upon two acres of the poorest part of the land, and the rest was without manure. I then ploughed it very carefully, being particular to turn the sward *all* under. I then dragged it twice with the harrow across the furrows, and then with a hand-marker having seven trails, I marked out for the rows, three feet six inches one way, by one foot nine inches the other. The ground by this time had, owing to the drought, become very dry. It was now the 19th of May; I had intended to have planted by the 12th, by which I should have avoided the bad effects of the drought.

I soaked my corn and rolled it in plaster; it was of the twelve rowed kind; I put from five to eight kernels in a hill, and covered with moist earth. The corn came up unevenly, some not till three or four weeks after planting. On the second of June, I put on thirty-five bushels per acre of leached ashes. On the 11th, ploughed out the corn with the cultivator, and hoed, throwing a little fresh earth around each hill, first thinning it out to four of the best spears in each hill. It came forward now very fast. On the 23d, went through the second time with the cultivator, but owing to a press of other business, did not hoe it. July 2d, used the cultivator the third time, and hoed the second, throwing little fresh earth in each hill. This was all the labour bestowed in the tillage of the corn; it now presented a most healthy and thriving appearance, and almost completely shaded the ground. At this period my neighbours began to prophecy the result

of my experiment, and with no very flattering terms. Without a single exception, they told me I would have but little corn, and that little would be poor, as it grew too thick, and was too much shaded. With this array of prophetic judgment, from old and young, against me, I almost began to doubt the wisdom of my experiment, and to repent having wandered from the footsteps of my fathers. Some advised me to cut out every other row, but as I had begun the experiment, I thought it proper to carry it through. The corn grew rapidly, grew strong, and maintained its healthy colour. On the 3d of October, after an unusually cold and unfavourable season, with frost every month, and one particularly on the 4th of August, which materially injured the corn crop, and one on the 16th of September, which put a stop to its growth, I cut up my corn by the roots and stouted it off the field, and left it till the 10th of November, when I completed the husking, and stored into my grainery three hundred and twenty-two bushels of ears of good corn, besides sixty of soft or pig corn: being at the rate of about 50 bushels of corn per acre. Besides the corn, I had double the usual quantity of stalks, which in this season of scarcity, I have found very valuable.

I will now inform you of the carrot crop. Early in the spring I carted eight loads of long manure on one eighth of an acre of tolerable rich bottom land, deep and loose, and ploughed it under; and on the 12th of May put the seed in the ground by hand, in drills 14 inches apart. The seed did not come up well, there being frequent vacancies of from one to ten feet in length. In the course of the season the carrots were hoed twice and weeded three times by hand. On the 29th of October I harvested the crop, which turned out two hundred and ten bushels of carrots, at the rate of 1680 bushels per acre. The whole cost of tillage and harvesting was $14, including interest on land at $50 per acre; the value of crop at two shillings per bushel, $52,50, from which deducting cost, leaves a balance of $38,50 nett gain from one-eighth of an acre. I have no doubt that had the seed come up uniformly over the field, I should have had 250 bushels, which would have been 2000 bushels per acre.

Adjoining the carrot field, and of the same kind of land, and prepared in the same way, I had one-tenth of an acre devoted to the culture of the ruta baga. The ground was made perfectly level, and on the 26th of June the seed was sown in drills from eighteen to twenty inches apart, and came up well, as the weather was very favourable. On the first hoeing they were thinned to twelve inches apart. They were hoed but twice; and on the 12th of November I harvested one hundred and twenty-two bushels; being at the rate of 1220 bushels per acre. Value of crop at eighteen pence per bushel, $22,87; tillage and harvesting, $6.20, leaving a balance of $16,62 nett gain from one-tenth of an acre.

With regard to the carrots, they were not thinned, but were left to grow as they came from the seed, but the looseness of the soil allowed them to spread, and they grew to a very great size: some measuring 17½ inches in circumference, by 30 inches in length, weighing 7½lbs. The largest turnip measured 25 inches in circumference, and weighed 11lbs.; very few weighing less than 5 and 6.

I would respectfully solicit the attention of your correspondent, Thomas Midford, to the account of ruta baga culture, as exhibiting the result of the level system, which he considers the least enlightened and the least productive.

Respectfuly, yours,

EDWARD MILLER.

A way to Grow Early Potatoes.

[FROM THE BALTIMORE FARMER.]

On walking out the other afternoon, in company with some other friends, we were caught in a thunder storm, and obliged to take shelter in a farm house, the owner of which was known to one of the party. During the storm, the conversation turned upon gardening, and our host gave us a plan for raising new potatoes, which I send you. It may appear strange, but, as he says, he has tried it, and found it to answer very well. At all events, I think it worthy of consideration and a trial. I give his own words, so far as my recollection serves:

"I was getting up my potatoes one year, in that field below the house, when the thought struck me, that by planting the smallest of them again, immediately, they would grow, and I should have new potatoes very early. I resolved to try the scheme. I had no hot house or greenhouse, and was therefore to hit on a plan for keeping off the frost, which I did as follows. I chose a part of the field in which I was working, and made trenches along the top and the sides to keep it dry. I then covered it a few inches deep with litter, and put on a few inches of soil, and planted the potatoes, covering them again with soil. In order to keep the earth from falling down and smothering them, when they began to shoot, I stuck sticks and brushwood over the last layer of soil, and put on a quantity of litter, covering the whole with soil. One of my neighbours who saw me, was surprised, and said he was sure I should have nothing in the end, but I told him to come again on new year's day, and we should see. We did so, and we opened the bed and found new potatoes about the size of a marble; I then told him I would leave it until the 6th of March. I did so, and on opening it again, the new potatoes were as large as an egg, exceedingly well tasted, and quite mealy. I showed some to the gardeners in the neighbourhood, who would scarcely believe me, when I told them how I had grown them."

The situation in which they were grown, and which I myself saw, was on the north side of a hill, in the northern part of Lancashire, not in the warmest situation in the world, as you may imagine.

The idea of growing potatoes in the manner above stated, is good, but my informant's mode is, I think, capable of improvement. If, instead of the side of a field, an old hot bed were used, and hoops placed so as to prevent the soil from falling down and pressing down on the young shoots, which would not grow very high, as potatoes when deprived of light do not grow so much above ground as they do naturally, I think early potatoes might be raised without any expense. I intend to try it, at all events, and hope some of your readers will do so likewise.

Curious Discoveries in Practical Science.

Abundant examples might be cited of cases where the remarks of experienced artists, or even ordinary workmen, have led to the discovery of natural qualities, elements, or combinations, which have proved of the highest importance. Thus, (to give an instance,) a soap

manufacturer remarks, that the residuum of his ley, when exhausted of the alkali, for which he employs it, produces a corrosion of his copper boiler, for which he cannot account. He puts it into the hands of a scientific chemist for analysis, and the result is the discovery of one of the most singular and important chemical elements, *iodine*. The properties of this, being studied, are found to occur most appositely, in illustration and support of a variety of new, curious, and instructive views, then gaining ground in chemistry, and thus exercise a marked influence over the whole body of that science. Curiosity is excited; the origin of the new substance is traced to the sea-plants, from whose ashes the principal ingredient of soap is obtained, and ultimately, to the sea-water itself. It is hence hunted through nature, discovered in salt mines and springs, and pursued into all bodies which have a marine origin; among the rest, into spouge. A medical practitioner (Dr. Coindet, of Geneva,) then calls to mind a reputed remedy for the cure of one of the most grievous and unsightly disorders to which the human species is subject, the *goitre*, [large wens or swellings about the neck and throat,] which infests the inhabitants of mountainous districts, to an extent that in this favoured land we have happily, no experience of, and which was said to have been originally cured by the ashes of burnt sponge. Led by this indication, he tries the effect of iodine on that complaint, and the result establishes the extraordinary fact, that this singular substance, taken as a medicine, acts with the utmost promptitude and energy on *goitre*, dissipating the largest and most inveterate in a short time, and acting (of course, like all medicines, even the most approved, with occasional failures,) as a specific, or natural antagonist against that odious deformity.

In needle manufactories, the workmen who point the needles are constantly exposed to excessive minute particles of steel, which fly from the grindstones, and mix, though imperceptible to the eye, as the finest dust in the air, and are inhaled with their breath. The effect, though imperceptible on a short exposure, yet being constantly repeated from day to day, produces a constitutional irritation dependant on the tonic properties of the steel, which is sure to terminate in pulmonary consumption; insomuch that persons employed in this kind of work, used scarcely ever to attain the age of forty years. In vain was it attempted to purify the air, before its entry into the lungs, by gauzes, or linen guards; the dust was too fine and penetrating to be obstructed by such coarse expedients, till some ingenious person bethought him of that wonderful power, which every child who searches for its mother's needle with a magnet, or admires the motions of a few steel-filings on a sheet of paper held above it, sees in exercise. Masks of magnetized steel-wire are now constructed and adapted to the faces of the workmen. By these, the air is not merely *strained* but *searched* in its passage through them, and each obnoxious atom arrested and removed.

Who would have conceived that *linen rags* were capable of producing more than their own weight of *sugar*, by the simple agency of one of the cheapest and most abundant acids, the sulphuric? That *dry bones* could be a magazine of nutriment, capable of preservation for years, and ready to yield up their sustenance in the form best adapted to the support of life, on the application of that powerful agent, steam, which enters so largely into all our processes, or of an

acid at once cheap and durable? That *saw-dust* itself is susceptible of conversion into a substance bearing no remote analogy to bread; and though certainly less palatable than that of flour, yet no way disagreeable, and both wholesome and digestible, as well as highly nutritive?—*Sir John Herschell's Nat. Phil.*

Salivation of Horses.

Every one at all conversant with the habits of horses, has witnessed them labouring under the disease of salavation or *slabbering*, as it is commonly called, generally produced by eating second crop grass or hay. The annexed extract is part of a paper upon this subject, by S. C. Rafinesque, published in a late number of the American Farmer.

"Two kinds of weeds, which grow occasionally in meadows and pastures, produce this disorder, whenever they are accidentally eaten by horses and cattle, together with clover or grass. Sheep and hogs never eat them. The first and the worst is the *Euphorbia hypericifolia*, a small milky plant, with opposite smooth leaves and very small white flowers. The second is the *Lobelia inflata*, or asthma-weed, a larger plant, with alternate hairy leaves, blue flowers, and swelled seed vessels. Both have the leaves ovate, oblong, and slightly toothed.

They both blossom at the end of the summer, when of course they are largest and most detrimental. Being mixed with the second crop of clover and grass, they sometimes become entangled there-to, and are eaten by horses who would probably reject them otherwise. They may likewise become mixed with the second crop of hay, and be eaten with it by horses. Hence has arisen the vulgar opinion which ascribed this disorder to the second growth of clover."

Both the above plants have energetic properties. All the species of the genus Euphorbia are strong drastics, and the Lobelia inflata is little interior to said genus in energy; it has been usefully employed in the cure of asthma and other disorders: it was one of the Indian medical plants. They produce a slight salivation even in man.

Some other plants may have similar salivating properties, but the two abovementioned are the most common; being found almost all over the United States. They are not uncommon in Kentucky.

By attending to this, it will be easy to prevent the disease: since they are both annual plants, which may be easily be destroyed in the meadows by pulling them up before they ripen their seeds. Should they grow too thick, horses and cattle should not be allowed to pasture where they grow, and the second crop of hay should be cut rather early, (when the weeds are in blossom,) and burnt on the ground.

Should the horses and cattle happen to eat them notwithstanding, and be attacked with the salivation, they may be cured in a single day by feeding them plentifully with cabbage leaves, which appear to be an effectual antidote for this peculiar disorder.

If no cabbages should be at hand, the leaves of turnips, radishes, mustard, and such other plants of the cruciferous tribe, might probably answer equally as well.

Of the Right of Property in Slaves.

The following Essay is from J. R. PAULDING's able vindication of Slavery in the United States.

"*Man cannot hold property in man,*" is another self-created, self-supported dogma of the advocates of immediate emancipation. The unjust possession of property, must be derived from its acquisition being contrary to the declared will of the Supreme Being, the inalienable rights of nature, or the laws of the land. The first two points having been involved in the preceding discussion, it is only necessary to consider the last.

Two great principles have been so universally recognized and acted upon, by all civilized nations, living under a government of laws, that they may now be considered as established beyond question. The first is, that the right to property is founded on possession guarantied by the law; the second, that after a certain period, this right is not invalidated by the manner in which that possession was acquired. Nine tenths, if not the whole of the property of the world is founded, not on purchase, but conquest. If we go back to the earliest periods of history, we shall find that the then inhabitants of every country always referred to some distant period, in which it was possessed by a different people, who were either extirpated or driven away by the valour of their ancestors. Among barbarians, and afterwards when the feudal system prevailed in Europe, conquest was equivalent to an almost total change of property. The nobles, then the sole possessors of the land, were despoiled, and the conqueror became the possessor. Three times at least, has a great portion of the property of England changed hands by conquest; and at this moment it is held by the tenure of rapine alone. The holders can only go back to the time of William the Norman for a title to their possessions. It is needless to multiply examples of what is in fact the history of all nations, except our own, which has never yet been, and we trust in God never will be, conquered. Our history will only be referred to for the purpose of illustrating the position above assumed. The United States were once the property of the Indian tribes, and though a considerable portion was fairly purchased, by far the largest was obtained by conquest alone.

However defective such a title may be originally, it acquires force and authority by the lapse of time, and the absolute necessity of putting some limit to the period in which a peaceable possession of property implies an unimpeachable right. If, from a feeling of compunction, some nice scruple of conscience, or in accordance with some new standard of moral and religious obligation established by fanatical expounders, it should be determined by the present possessors of the lands parcelled out by William the Conqueror, to restore them to the descendants of the ancient Saxons—or, to go still farther, the ancient Romans; or, still beyond, to the ancient Britons, who once possessed the country—where shall they find the real heirs, and how will these establish a direct descent from the rightful proprietors? Or should the good people of the United States be smitten with a compunctious feeling, and desire to give back to the Indian tribes, who once roamed and hunted over them, those territories now smiling in cultivation, where will they find their descendants? And if they did,

what would those savages do with these cultivated fields, now stript of their interminable forests, and of the game which once abounded in them? They would perish under this act of sublime retribution; and the present occupants would voluntarily incur exile and poverty, without the consolation of being rewarded for their sacrifices, by the refreshing spectacle of savage happiness.

Whatever, therefore, may be the original foundation of a right, there arises, from the very nature of things, a necessity, that after a certain period of quiet possession, under a special or general law of the land, it should be for ever after unassailable, on any defect of title. The period is not uniform in all civilized nations; but where ver a written system of laws exists, some statute of limitation cuts off the source of eternal and vexatious claims, which might otherwise be brought forward, when time, and its various accidents, will naturally have rendered it difficult if not impossible to rebut them. Such a law is necessary to the security and value of property, and such a law is in force in every State in this Union. Under this law the right to property, of which possession has been had the requisite number of years, is secured ever after. The real foundation of the right of property is therefore the law of the land, and not any abstract principle of religion or morality.

And this law of the land, being based on the principle that it supersedes the law of force, and guaranties the peaceable possession of property after the expiration of a certain time, is consonant so far as human laws can be, to the laws of the Supreme Being. It may occasionally present instances of injustice, and sanction greybeard frauds; yet still it is founded on a salutary general principle, which, beyond doubt, practically conduces to the happiness of mankind, and is therefore sustained by the extent of its benefits compared with the evils it may produce. This is all that can be expected from human laws; and were more to be required, it could not be obtained until perfection becomes an attribute of the works of man. By placing the sanction of the right on the ground of possession, the law does not intend to justify any person in retaining a property acquired by fraud, and which the inheritor knows was thus acquired. The moral obligation remains the same; but after the expiration of the prescribed period, the fraudulent possessor must be left to his own conscience and the justice of Heaven.

If we examine the right of the master to the property of the slave, as it exists in the South, we shall find it, equally with the right to any other species of property, based on the law of the land, as it has existed for more than two hundred years, with no variation in principle. In addition to this, the Constitution of the United States, which is the paramount law, although with a sort of squeamishness savouring of affectation it forbears all mention of slaves, is known to have had a direct referrence to them in the following provisions:—

"Representatives and direct taxes shall be apportioned among the States which may be included within this Union, according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound to service for a term of years, and excluding Indians not taxed, *three-fifths of all other persons.*

"The migration or importation of such persons as any of the States now existing shall think proper to admit, shall not be prohibited by

congress, prior to the year one thousand eight hundred and eight; but a tax may be imposed on such importation not exceeding ten dollars for each person.

"No person held to service or labour in one State under the laws thereof, escaping into another, shall, in consequence of any law or regulation therein, be discharged from such service or labour; but shall be delivered upon the claim of the party to whom such labour or service may be due."

These three articles, as we before observed, are known to have had a direct reference to slaves, and indeed can apply to no others. The first distinctly recognizes the right to the property in slaves, by making it the basis of taxation and representation. The second sustains the right, by admitting the migration or importation of slaves until a certain specified period; and the third protects it, by enabling the master to reclaim his slave in any State where he may take refuge. These distinct provisions constitute a guarantee, more complete as well as specific, than was thought necessary to any other species of property; and it was given to protect the South against a newborn spirit of philanthropy which menaced their rights. No historical fact is better known or more completely established, than that the Southern States would not have acceded to the Union, under the new Constitution, without this security to their possessions. It constituted the condition of their acquiescence, and its infraction will be a virtual dissolution of the Confederacy, because it violates a provision without which it never would have existed. The general government and the sister States, therefore, owe it to their own obligations as well as their own honour, not only to refrain from tampering with these rights, but to secure the Southern States in their possession, by every means not forbidden by the instrument which guaranties them. Those, the sole basis of whose proceedings is laid in a violation of the constitution and laws, have no right to complain should they receive the benefit of their own latitudinarian principles, and be punished for those wholesale libels, which, if uttered against individuals, would subject them to the severest penalties.

The local laws of the States in which slavery prevails, are still more specific in recognizing slaves as property, as may be seen in the abstract of the statutes of Virginia, which will be given hereafter. With these, however, we of the other States have nothing to do, nor do we possess a right to interfere with them, any more than the distinction of *castes* among the Hindoos, or the slavery of the boors of Russia. If they are repugnant to our feelings, so are these. The lower castes among the Hindoos are condemned to a state to which that of the slaves of the United is a paradise. They are the slaves of the higher castes, without any of the benefits of slavery which will be hereafter stated; and they are condemned to an hereditary degradation, lower, by a thousand degrees, than that of any negro that ever existed among us. Why does not England exert its power over the destinies of Hindostan, to remedy these crying outrages on the principles of universal philanthropy, instead of sending missionaries among us to preach sedition, and advocate the cutting of throats, besides employing the whole force of her press to sow the seeds of contention among us? It is not our cue, however, to turn Quixotes in the philanthropy, or to go about freeing banditti from chains and lions from cages. It is not our interest, to inundate that vast region with

pictures calculated to excite insurrection and murder, reinforced by reviews, sermons, tracts, and resolutions, distinctly and vehemently exhorting them to indiscriminate massacre. We have as good a right, and the duty to do this is equally imperative, with that of striving all in our power to inflict a servile war on our brethren of the South, for whose civil institutions we are no more responsible than for those of India or Russia. Nay, the project would be far more judicious, since the liberation of the Russian white slave would naturally lead to at least a gradual regeneration and amalgamation; for there are none of those natural and invincible barriers, no contrast of colour, or odours, or hair, or physical conformation, or mental organization, to create an incompatibility between the different orders of people. The emancipation of the peasantry and labouring classes of Europe, by which is meant placing them on a level with the aristocracy in regard to civil rights, might therefore rationally be desired as the prelude to a salutary equality; whereas that of the slaves of the United States, if our former reasonings are well founded, would be the forerunner of the destruction of rational liberty, and the introduction of barbarism.

We of the North possess no right, as members of the Confederation, much less are we under any obligation, to interfere with the relations of master and slave in the South. We have no obligation to pursue a course which cannot fail of producing the most disasterous consequences to our political union, as well as to the master and slave. We have no obligation to do evil that good may ensue. We have no obligation to deprive, or take indirect means of depriving, a large portion of our fellow-citizens of their property, or to render its possession a curse instead of a blessing, on the ground of an abstract principle, sustained neither by reason nor religion. We have no obligation to sacrifice our white brethren and their families on the altar of an experiment which all past experience repudiates as fallacious: nor have we any obligation to sport with human rights, legally and constitutionally secured, in affecting to redress human wrongs.

The petitions for the abolition of slavery, every year presented to Congress, signed by people who neither see nor feel its consequences, whatever they may be, we consider an abuse of a constitutional right. The civil institutions of a State, so long as they are not repugnant to the fundamental principles of the general government, as declared in the Constitution, are beyond the reach of the other States, who possess no right whatever to interfere with them. The same with the district of Columbia, where Congress can no more legislate in the teeth of that Constitution, than in any one of the States. It has no more right to vote away the property in slaves than any other property, and the attempt would be a gross violation of the rights of citizens, even though a majority of them should assent to the measure; for a majority has no power over the rights of property, nor can it sanction their violation. The whole power of the State cannot take away any portion of private property without paying for it, even should it be absolutely required for the public good. It may tax us, in common with all other citizens, but that is the extent of it prerogative. But to return to the subject of petitions. That which does not either immediately or remotely affect our rights, our interests, our prosperity, or our happiness, by some outward and visible agency which all men distinctly comprehend, can be no "grievance;" it therefore requires no "redress" in regard to us, and consequently no petition on our part.

Suppose the people of the South should be afflicted with an acute pang of sensibility, at hearing that in the Middle, and most especially the Eastern States, the daughters of the independent villagers and farmers performed all the menial offices of the household, and at public houses waited at table on all classes of travellers. Suppose they were to get another severe twinge of philanthropy, at seeing thousands and tens of thousands of white children working fourteen hours in the day at unwholesome employments in manufactories, at an age when the young slaves of the South are enjoying all the sweets of luxurious idleness. And suppose, taking example from the friends of the "entire human race,' the people of the South were to institute societies, and send forth missionaries, and petition Congress to abolish such barbarous servitude, on the ground of its being contrary to the law of God and the rights of nations. Would not such petitions be hooted out of Congress, as impertinent intermedlings with the habits, manners, and civil institutions of the people of the North? Is the task of waiting on strangers in a public house less unpleasant, to a delicate female, than the service of a slave to his master? Or is the labour of the white children in the manufactories one whit more voluntary in fact than that of a slave in the South?

Yet we do not find them getting into a paroxysm of commiseration at these crying enormities, which to them are as offensive to the feelings of humanity as the condition of the slave is to the sentimentalism of the day, which seems to have abandoned antimasonry and gone over to antislavery. Were the people of different sections of the United States to undertake to petition against every thing that happened to be disagreeable to each each other, Congress would have a fine time of it, and that fraternal feeling so essential to the existence of the Union, would become a sacrifice to this modern, mischievous, meddling spirit, which is the offspring of fanaticism begot in ignorance or hypocrisy.

It might be well for the libertines of philanthropy, who consider all things possible, to bear in mind that a large portion of the real evils of this world has originated in wild attempts to cure imaginary ones. Empires have been laid waste and nations exterminated in abortive efforts to change the long established system of Providence, or in combatting with what seemed evils, but which were only necessary ingredients in the various cup of life, and contributed to the great end of universal good. The fanatics of religion and philanthropy have inflicted more miseries on the human race than they ever alleviated. They rush from one extreme to another with daring impetuosity, not choosing to remember that all extremes are pernicious, or that the Great Dispenser of wisdom and virtue, the Creator of man and the Sovereign of the Universe, hath ordained that none of his blessings shall contribute to human happiness unless they are enjoyed in moderation. Overheated zeal, even in a good cause, has in every age of the world been the parent of persecution, slander, and bloodshed; and more victims have been offered up at the shrine of imaginary good than of real evil.

Management of Horses.

[FROM THE FARMER AND GARDENER.]

THE feeding of horses is a thing which for the most part is indifferently attended to in this country, and indeed the *system of feeding* which has been adopted, is but ill calculated to preserve these noble animals in full health and unimpaired strength and vigour of body. With many planters and farmers, nothing but corn and oats, in the whole grain, are doled out from one end of the year to the other. Now these are each highly nutritious and excellent substances, and well calculated to sustain horses under long continued and laborious work, but then are they not both too heating to the blood, and too difficult of digestion to be given without change during the whole year? Would it not be better, putting the saving out of the question, to reduce those grains to something like digestible substances. Whether the horse be fed upon corn or oats, in the whole grain, they necessarily void a large portion of them in precisely the same state in which they are received into his stomach. This fact is too well established to be denied at this late day, and hence it follows that all portions of grains which are eaten by the horse and not digested, serve but to irritate the coat of his stomach, inflame his blood, and, by necessary consequence, disease the whole system. The health of a man's family is very properly said to be dependent as much upon his cook as upon any other earthly agent, whether referable to physical or atmospheric causes. Writers upon human health invariably recommend plainness of diet, moderation of eating, exercise, and general temperance, and the substances which are most earnestly commended to favour, are those which afford the the most bland nutrition, and which are easiest of conversion into chyle. If these recommendations hold good with respect to human diet, we would ask are not the same general laws of nature applicable to the horse? If man lives luxuriantly and feeds upon high seasoned and luscious food, the chances are as ten to one against him that he will get the *gout*, or some inflammatory disease; and if he feeds upon substances difficult of digestion, he is just as sure to be visited with that worse than pestilent- distemper—the dyspepsia. Ah! but would you compare the horse to man? we think we hear some one ask; and lest our motives may be mistaken, we will take the liberty of replying to the query in advance of its being solemnly put to us. We do not compare the horse to the man, but we hold it as of a truth which admits not of contradiction—that all the alimentary substances, to be profitable to the stomach of either man or horse, should be not only nutritious and bland, but should be eaten in that state in which it is best calculated to undergo the digestive process. Mastication does much to prepare the food of the horse for that operation; but the evidences which are afforded by the substances voided by this animal, incontestibly show that it fails most lamentably in the performance of this highly necessary work. In England where the management of stock generally, and particularly of the horse, is reduced to a matter of science, but few intelligent feeders think of giving food to that animal in an uncrushed state; nor do they confine them to grain-feeding alone, and for the assigned reason, that it is too *heating*. Potatoes and ruta baga form a part of the feed of the studs of most English country gentlemen; by which means they keep their horses in better health; the

occasional feeding with roots serving to open their bowels, cool their blood, determine the secretions to the surface, render the skin loose, and the hair silky and healthy. We have said that independently of the saving which is thus effected, the other reasons are sufficient to justify a resort to practice, and we would ask are not the melioration with the animal to which we have just alluded, sufficient of itself, to make it an object worthy of every consideration? We think it is, and should be rejoiced to find that our suggestions were improved upon by American horse owners, for we honestly believe that infinite good both to master and beast would inevitably result from it.

On the Importance of Farmers giving personal attention and labour to their Farms.

[FROM THE FARMERS' REGISTER.]

I HAVE been a subscriber to your agricultural work from its commencement, and yet never attempted to aid you in your labours, notwithstanding the gentle rebuke you gave me, and the invitation to contribute my mite to the information which is due from every man of experience, who is engaged in the cultivation of the earth. The truth is, that I entered the field of agriculture nearly forty-five years ago, with small means, and necessity drove me to hard labour, with the very few slaves I possessed, and left me no time to keep a journal of my little operations; and my family increased faster than my profits, so that when the scale of my operations extended, so as to take me away from manual labour, I found even less time to commit to paper the results of such experiments as grew out of my pursuits; and I have no recourse now to any thing but a defective memory, to enable me to present any thing useful to the present generation. Indeed, Mr. Editor, the course of business is very much changed since I began my operations. At that day, there was a great deal of land to open, and it was not thought disgraceful to take hold of an axe and set a good example to the negroes—and that gave a habit of labour which led on the young to follow it up through the year at any sort of work that came in the way. I pursued this course myself for seven years, till the investments of my profits put it out of my power to do any thing more than lay out the plan of operation, and see that others did their duty in the execution. And here let me remark upon another very important change that has been brought about: that very useful class of men called overseers, in a slave-holding country, were employed upon a share of the crop; and it was upon the following principle:—A young man expected to make his living in this way, and had neither land nor labour except that of his own body and mind. The man who had land and negroes from which he wished to derive profit, entered into a sort of partnership with the young man, that he would furnish the land and a certain number of labourers—we will suppose seven. It was understood that the young man was to work regularly with these negroes, and at the end of the year was to have the profits of his own labour, which was the eighth part, leaving the profit of the labour of the negroes to the master. Thus the young man received his full share for his labour, and paid nothing for the land he cultivated; besides which, he had his house, provision and fuel for

himself, and his wife and children, if he had any; while he was earning a reputation, (if he was good for any thing,) which, in the end, would be a fortune to him. And let me tell you, Sir, that this training gave him a knowledge of what could be done; it gave him strength of body and mind, and habits of industry, which would generally stick by him through life. When after beginning with a small number of hands—three, four, five or more, he became qualified to manage too many to justify his labouring in person, his profits increased to a share and a half, two shares, or even more, till at length he was enabled to establish himself; and in process of time, perhaps employed young men to begin as he had done; and his experience qualified him to be a judge of others.

I reckon, Sir, you begin to think you had better have let me off, than have your Register filled with what I have no doubt will appear to many of your readers useless stuff. But when I tell you I ascribe the little success I have had in providing the means of raising a large family, to the seven years of hard labour I endured, I trust I shall be excused for endeavouring, in this way, to encourage the young men of the present day to conform, in some degree, at least, to the plan of life here laid down.

I come now to the change adverted to in the former part of this letter. After I had added to my business, by the purchase of another farm, and had had several valuable agents, being in want of an overseer, a young man was recommended to me. While in conversation with him, I asked if he ever worked with his people? He said—Oh, no! he considered it disgraceful to work with negroes. I told him I had done it seven years, and never thought I had been disgraced by it. I told him I never bound an overseer in writing to work, because if he required that, I did not expect much from him; but I wanted to know his habits. You must know, that by this time, our country was becoming more of a farming country than it had been, in consequence of the increase of arable surface, by clearing, as well as the exhaustion of some of the fields, which caused the owners of the soil to turn their attention more to improvement, which conflicted with the immediate interest of the overseer, by its prospective character. This brought about the habit of giving standing wages—broke up the copartnership, and took away the interest of the overseer, in the fruits of his year's work. You know, Sir, without my telling you, that the way to insure a man's fidelity to his trust, is to make it his interest to be faithful. Do not understand me as joining in the general denunciation of overseers, as the most faithless men in the world. Far from it. I have been fortunate in finding among them, as much, or more fidelity, than in other classes of society. But they are men, and consequently, are liable to the frailties of men; and when we employ one that cannot overcome selfish motives, and attend to the interest of his employer, the mischief is incalculable, particularly as the time approaches when he is to leave the business he is engaged in, and receive the same wages as if he had done the duty.

The intention of the foregoing remarks, is to show the great importance—indeed, the absolute necessity of more personal attention from the owners of the land, and labour. And this necessity is rendered more imperious by the great and sudden rise in the price of labour. We have interposed between the soil cultivated, and the labour employed in its cultivation, an agent who has no interest in either, except that which arises from his character and standing in his occupation. And

although this, in many instances, operates as a powerful stimulus, and when accompanied with sound moral principles, is sufficient for the accomplishment of our objects, both as to immediate profit and improvement of soil. which is ultimate. Yet, in very many cases, these are wanting; and great loss, perhaps in the end ruin, is the inevitable consequence. Why, then, cannot those, who have but one farm, and who are young, "*take hold*," and be farmers indeed? Among their labourers, they may find here and there, some who are faithful, and have sufficient intelligence to follow the directions of the master; and when they possess these qualifications, will do so with an eye singly to the wishes and interest of the master. Besides the principal, he can have subordinate agents, particularly at the head of his ploughmen. The master can, by this mode, give more encouragement to his slaves. He can understand their characters—can reward and punish with more judgment. In a word, he can feel more responsibility, and suffer less pain under that responsibility, than when he must depend upon another. For if any thing disagreeable occurs between the overseer and the slave, he cannot positively know the merits of the question; and if he leans too much to the tale of the slave, he overthrows the authority of the overseer. On the contrary, if he turns a deaf ear to the complaints of the slave, he incurs the risk of unnecessary severity. Let me not be understood to convey the idea, that this class of men can be dispensed with: they must always be in demand. There are too many cases in which they cannot be dispensed with; and in a slave-holding country, there is no more useful and necessary class of men. Yet, many salutary consequences will flow from the immediate agency of the owner of the soil. He will set an example of more vigilance in these intermediate agents. He will put out of employment those who do not, like him, consult the ultimate interest of the farm, as well as the immediate profits thereof, in which he is more intimately concerned. He will reason upon causes and effects. upon his own operations and experiments, which is not to be looked for from those who are tied down to the experience of those who have gone before them. Consequently, more reliance is to be placed upon the results of his own observation, accompanied by the reasoning of his own mind, than upon facts detailed by others, who may, for want of this reasoning, lead him into erroneous conclusions from their facts. He will often find occasions during the year, when he can devote more attention to the interest of the farm, than can be expected from one whose immediate interest does not prompt him to watch these little intervals of time, of what might be called leisure; though in truth, this leisure might be employed in consulting the benefit of the crop. In short, Mr. Editor, there is nothing, but the ownership of the soil, which can inspire that lively concern in its improvement, which will enable the manager of it to take advantage of all circumstances and occasions to consult its future productiveness, when by doing so there is some little conflict with immediate profit, though not sufficient to induce the judicious farmer to neglect it. And this reasoning would apply as well to the present owner, as the man who is placed between the immediate and ultimate profit of the land and labour, if their situations were reversed.

The communication above, was written more than twelve months ago. I declined to send it, because there is too much of egotism in it. Having come across it to-day, in turning over my papers, and shown it to a friend who is with me, he has prevailed upon me to send it to

you. If you think it worthy of a place in your valuable collection, publish it. I must be allowed, however, to depart from that, which, in most cases, seems to be adopted by your correspondents, of signing my own proper name to it. If you decline to insert it in your journal, be assured you will give no offence to one who is less of a farmer than

A PLANTER.

Effects of the remarkable prevalence of Cold in South-Carolina. Remarks on Emigration to the West.

[FROM THE FARMERS' REGISTER.]

Abbeville, S. C. March 11th, 1836.

THERE appears to be an unaccountable change in the seasons. Gibbon in his history of the decline and fall of the Roman empire, remarks, that while Germany was one almost continuous forest, the Danube was often frozen over, so that armies could pass on the ice in safety; but that in modern times, after the forests had fallen before the labours of civilization, and the marshes have been drained, the climate has been so much ameliorated, that such a circumstance in relation to this river has not occurred. But the opening of our country by the removal of the trees, and the exposure of the ground to the fair action of the sun does not seem to have produced this effect here. The early and severe frost of last autumn did material injury to the cotton crops. The preceding spring had been unfavourable to a good stand, which rendered it necessary to replant in many instances. This circumstance made it late before the cotton plant started in its growth. The early frost found it very succulent, and many of the bolls by no means matured. The severe frost which occurred the 5th, 7th, and 8th of October, completely killed the plant, and destroyed the immature bolls. A light frost at that time, that would have merely checked the growth, would not have done much harm. As winter was thus early in assuming its sceptre, it seems unwilling to surrender its dominion to the genial influence of spring. While I now write, the weather is quite cold. There is a good deal of ice, which does not thaw in the shade at 12 o'clock, M. The forest and fruit trees have not yet budded. It has not been unusual in this country for planters to have much of their Indian corn planted by this time. But so wet and cold has been the season, that no one has ventured to commit the seed to the ground. Indeed, they have not altogether finished sowing their oats. Nevertheless, I do not regard the present inauspiciousness of the season as foreboding an unpropitious cropping one; for, when winter is finally broken up, and a vernal sun exerts its fructifying influence upon vegetation, every thing will grow off without a check. It is not safe to plant cotton before the 10th of April, anterior to which time planters generally have their corn in the ground. Our cold weather commenced about the 1st of February, and has continued, with short intervals, until now. We have had no snow this winter in this portion of the state, but we have had two severe sleets, and many cold rains. Last winter was a snowy one with us—the last and deepest fell the 5th of March.

The tide of emigration from this State has been great to the more inviting virgin soil of the south-west. But this flow of population is not confined to South-Carolina. Virginia, North-Carolina, and Georgia have also beheld, with melancholy emotions, their useful citizens-

abandoning the country of their birth, and the tombs of their ancestors, to find a home in that enchanting region. This is a deplorable state of things, and ought to invoke the wisdom and concentrate the energies of these States to stop this current which is annually sweeping away so many thousands of their people—and I am glad to see, as an efficient mean to this end, the efforts now making by rail-roads, canals, &c. to afford every facility to commercial, social, and political intercourse. Besides these means, however, there must be brought to bear great individual exertion and enterprize. Exhausted lands must be restored—fertile soils maintained in good heart—industry exercised—economy of time and labour consulted and practised. These things would soon put a smiling face upon our country, and take away the inducements to emigrate. I think the prospect already grows brighter, and a reaction is taking place. The fertile cotton regions of the southwest are already nearly filled up. Good land there, is high, while land of similar quality here is comparatively low.

The glowing descriptions given of these new countries have acted like a spell—and men have imagined that they have at last discovered the true El Dorado. But the actual view dispels the illusion. Although the soil is more favourable to cotton, and greater crops can be raised than on that from which the emigrant went, yet this circumstance alone will not counterpoise the many disadvantages and deprivations to which he is subject; hence arise discontent and disappointment; and in some instances, men have summoned up sufficient resolution to return to the homes of their fathers, and spend the remainder of their days where they first drew their infant breath. I hope, Sir, that your Register will continue to stimulate the people to redoubled efforts in the cause of agriculture, and that our beloved country will again wear the smile of renovated nature, so that there shall no longer be a necessity to leave it, to seek a better. This is a consummation devoutly to be wished.

PATRICK NOBLE.

Cotton Crop in the United States.

[FROM THE BOSTON ATLAS.]

Mr. Woodbury's Report on the cultivation, manufacture and foreign trade of cotton, presents a collection of facts, industriously compiled, and generally interesting. If his calculations were not more correct than his prophecies, we should set but little estimate on his report; for it will be recollected that the estimates of Mr. Woodbury furnished the data on which Mr. Senator Benton abused Mr. Calhoun so grossly last winter, accusing him in good and round terms, frequently repeated, of actual insanity. Mr. Woodbury's estimate was something more than an annual twenty millions out of the way, we believe; and the "hallucination—hallucination—hallucination" as Mr. Benton reiterated, was on the part of the gentleman from Missouri.

We learn from this report that the amount of cotton grown in the United States in 1834, falls short of the cotton crop of the whole world in 1791, only about thirty millions of pounds; and exceeded one-half the cotton crop of all the rest of the world. In 1791, there was 2,000,000 pounds of cotton grown in the United States; in 1834, there was 460,000,000lbs. In 1791, the crop of all the world was about 490,000,000 pounds; in 1834, about 900,000,000. In the latter year the general cotton crop is estimated at 900,000,000 pounds distributed in the following manner:

United States, - - - - -	460,000,000lbs.
India, - - - - - -	185,000,000
Rest of Asia, - - - - -	110,000,000
Mexico and South America, - -	65,000,000
Egypt, - - - - - -	25,000,000
Rest of Africa, - - - - -	34,000,000
West-Indies - - - - -	8,000,000
Elsewhere, - - - - -	13,000,000

The latter item includes some remote Islands, the South of Spain, Italy and Greece, and their islands, with the Canaries, where cotton is still raised to a considerable extent. According to the best data within the possession of the Secretary, the cotton crop of 1834 was grown in the different States in the following proportions:

Virginia, - - - - -	10,000,000lbs.
North-Carolina, - - - -	9,500,000
South-Carolina, - - - -	65,500,000
Georgia, - - - - - -	75,000,000
Florida, - - - - - -	20,000,000
Alabama, - - - - -	85,000,000
Tennessee, - - - - -	45,000,000
Mississippi, - - - - -	85,000,000
Lousiana, - - - - -	62,000,000
Arkansas, - - - - -	500,000

In producing the whole cotton crop of the United States, only about two millions acres are cultivated.

In 1834, cotton was worth 13 cents a pound, and the value of the whole crop in the United States was estimated at seventy-six millions of dollars.

Cotton and the Cotton Trade.

[FROM THE FARMERS' REGISTER.]

The report of the Secretary of the Treasury on this subject made 4th March last, by order of Congress, is a document of much value and importance, and contains a variety of tables relating to the growth and manufacture of cotton in all parts of the world. The first export of cotton from the United States, appears to have been in 1785, 5 bags, and in 1786, 6 bags. As late as 1794, Mr. Jay, when making a treaty with England was not aware that any cotton was exported from the United States. From that time to the present, the culture has increased, until our crops are now over 1,300,000 bales a year.

From this report it also appears that the import of cotton goods from India to England has ceased, and that the export of them from England has increased with astonishing rapidity.

When the East-India Company's monopoly of all the trade of India ceased in 1815, the first private merchant ship that sailed from England for India, was the ship John Gladstone, belonging to Mr. John Gladstone of Liverpool. This event was much spoken of in the papers at that time, as opening a new era in commerce. It now appears that the export of cotton goods alone, from England to India, is over ten millions of dollars annually, being more than their export of cotton goods to the United States, which is about eight millions of dollars. But now that the East India Company's monopoly was last year put an end to in China, as well as in India, a vastly greater field is open in that quarter for English cotton goods, which will in consequence, increase in an equal ratio the consumption of American cotton in England, quite as fast as we are able to to increase our supplies.

PART III.

MISCELLANEOUS INTELLIGENCE.

Elder Tree.—Sir J. E. Smith has remarked that this tree is, as it were, a whole magazine of physic to rustic practitioners. It is said that if sheep that have the rot can get at the bark and young shoots of elder, they will soon cure themselves. The wine made from elder berries is too well known by families in the country to need any encomiums; it is the only wine a cottager can procure, and when well made, it is a most excellent and wholesome drink, taken warm before going to bed. It causes gentle perspiration, and is a mild opiate. If a rich syrup be made from ripe elder berries, and a few bitter almonds, when added to brandy, it has all the flavour of the best cherry brandy. The white elder berries, when ripe, make wine much resembling grape wine. The buds and the young tender shoots are greatly admired as pickle. The leaves of the elder tree are often put into the subterranean paths of moles, to drive those noxious little animals from the garden. If fruit trees, flowering shrubs, corn or other vegetables, be whipped with the green leaves of the elder branches, it is said insects will not attach themselves to them. An infusion of these leaves in water is good to sprinkle over rose-buds, and other flowers subject to blight, and the devastations of caterpillars.—*Leigh Hunt's London Journal.*

Cotton Thread.—Very few of the thousands of our country women who are in the daily and constant habit of using the needle, are probably aware that they are indebted for the invention of that important article in the various works of domestic manufacture, cotton thread, to one of their own sex—the wife of the patriarch of American manufactures, Samuel Slater. A writer in the Woonsocket Patriot, states that in 1794, while spinning a quantity of sea island cotton, the evenness and beauty of the yarn attracted the attention of Mrs. Slater, and the question arose, whether if doubled and twisted, it would not make good sewing thread. The experiment was tried, and in order to be fully satisfied with the result, a sheet was made, one half with linen, and the other half with cotton thread, and immediately put into use. The cotton wore the best and the linen was the first that was rent. From this period, Mr. Slater commenced the manufacture of cotton thread, and it soon spread into England, France, and all other European countries, where it is generally supposed to be of English origin—though the credit of the invention belongs almost entirely to an American matron.

Effects of Multiplying Paper Money.—There was exported from Boston between the 1st and 26th of March, in gold and silver $235,147, and imported in the same time, $18,821; exported more than imported, $216,285. The flood of paper money which is increasing upon the country from every quarter has already begun to drive off the precious metals. The exorbitantly high prices—the exportation of specie, and the rage for the further extension of the paper money system betray a state of the business community truly lamentable. Such items as the following we frequently find in our exchange papers.

The brig Ark, arrived at New-York, from London, has on board 1788 bags of wheat, 600 bags of oats, and 7650 barrels of flour!

Thus the unnatural state of our currency, occasioned by the great increase of our paper circulation, induces foreigners to send *bread stuffs* to this country—our own merchants can afford to exchange paper money for specie, and pay 4 and 5 per cent. upon a dollar, to purchase wheat, oats, and flour for consumption in this country, while the enormous high prices of our domestic products prevent exportations. Still the country goes on increasing banks.—*Belfast, Maine, Jour.*

The Project of a steam ship and rail road communication between the United States and England, seems to be progressing to accomplishment. The rail road part is to be one hundred and ten miles from a port in the south west of Ireland to Dublin. The steam boat passage from New-York, it is anticipated, will be but ten or thirteen days. The British Consul at New-York has received the circular of the Company proposed to be established in England for the purpose of carrying the scheme into effect. The capital is two millions of pounds, in shares of fifty pounds.—*Balt. Amer.*

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A Locomotive set loose.—An engine which had accidentally got detached from its tender on the rail road at Dowington, Penn. a few days since, went off at full speed, "demon like," (says the Coatesville Advertiser) in defiance of the "statute in such case made and provided," leaving the engineer to catch up the best he could. It proceeded "alone in its glory" to the vicinity of Parksburg, when from the exhaustion of fuel its course was checked. Some of the citizens who saw it speeding over the bridge unattached and unattended, thought some dire catastrophe had occurred. One man calculated its speed at fifty miles per hour.

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Mason and Dixon's Line.—Seven Commissioners were appointed by Lord Baltimore, on the part of Maryland, and seven by Thomas and Richard Penn, on the part of Pennsylvania, to carry their agreement of the 4th of July, 1760 into effect. These Commissioners entered upon duty the 19th of November, 1760, and were engaged until completion, the 9th of November, 1768. The east and the west line between Maryland and Pennsylvania, mentioned in their report, is the line known as Mason and Dixon's. The survey was made by Mason and Dixon, who were employed by the Commissioners in November, 1763, at the request of the Proprietary of Maryland, and the Proprietaries of Pennsylvania. This line is the political division of slaveholding and non-slaveholding, of the Northern and Southern States.—*U. S. Gaz.*

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Simple Cure for Rheumatism.—Boil a small pot full of potatoes, and bathe the parts affected, with the water in which the potatoes were boiled, as hot as it can be applied, immediately before getting into bed. The pains will be removed, or at least greatly alleviated by next morning. The most obstinate rheumatic pains are known to have been cured by one applicaiion of this novel and simple remedy.—*Scotsman.* [This, at all events, is a simple, and apparently safe remedy.]—*Boston Transcript.*

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Instinct of Plants.—Dr. Hancock says, if a vessel of water is placed within six inches of a cucumber vine, that in 24 hours time, the vine will alter the direction of its branches, and not stop till it comes in contact with the water. And if a pole is placed at a considerable distance from an unsupported vine, the branches of which are proceeding in a contrary direction from that towards the pole, the vine will in a short time alter its course, and not stop till it clings round the pole. But the same vine will carefully avoid attaching itself to low vegetables nearer to it, as the cabbage, &c. Dr. Darwin gives several instances of the instinct of plants.

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Prodigy.—There is now residing at the Hotwells, Clifton, an astonishing child, named W. Manual, from Holywell, in North Wales, who, though he only attained his fourth year in March last, reads Hebrew, Greek, Latin, Welch, and English, fluently, and with equal facility if the book is reversed. He is a most interesting intelligent looking child, and as playful as children generally are at his age.

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Paint made with Potatoes.—Take one pound of potatoes skinned and well baked; bruise them in three or four pounds of boiling water, and then pass them through a hair sieve; to this add two pounds of good chalk or fine powder, previously mixed up with four pounds of water, and stir the whole together. This mixture will form a sort of glue capable of receiving any kind colour, even that of powdered charcoal, brick or soot, which may be used for painting gates, palings, or other articles exposed to the air.—*Ib.*

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To obtain good Timber.—Bark the tree the year before it is cut down. By this means, the alburnum is converted into hard and durable wood.—*Ib.*